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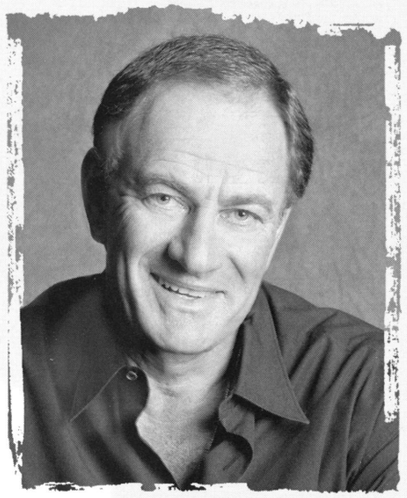
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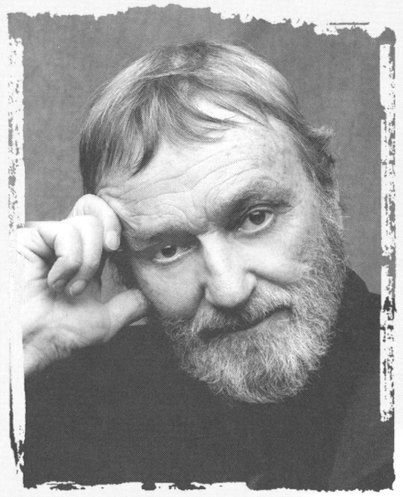
A TRIBUTE TO GREAT ARTISTS

The American Society of Cinematographers Lifetime Achievement Award recognizes directors of photography who have made unique and enduring contributions to the art form. Each winner has made an indelible visual impression on filmmaking. All deserve our admiration and gratitude.

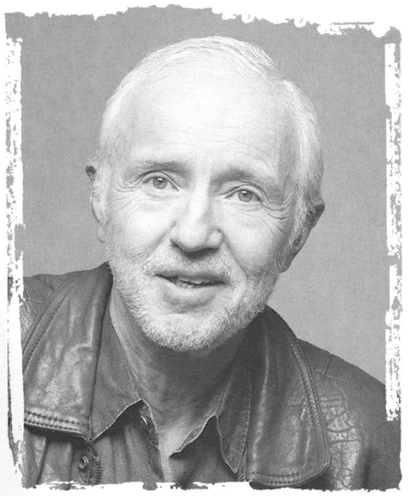
The ASC Lifetime Achievement Award recipients are Owen Roizman, Conrad Hall, Haskell Wexler, Gordon Willis, Victor Kemper and Vilmos Zsigmond. Not pictured are recipients Sven Nykvist, Philip Lathrop, Charles B. Lang, Jr., Stanley Cortez, Joe Biroc and George Folsey.



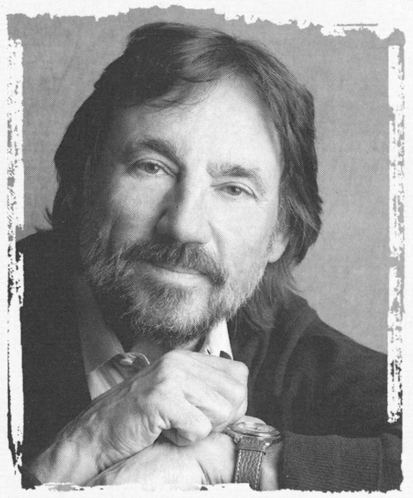
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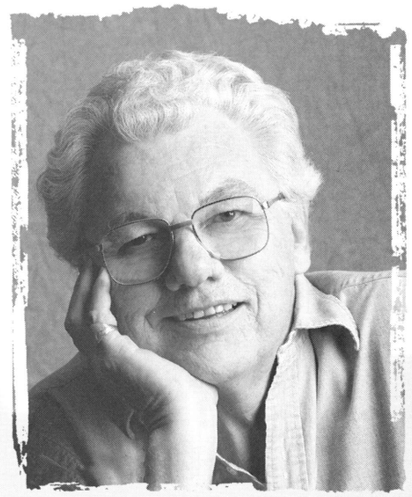
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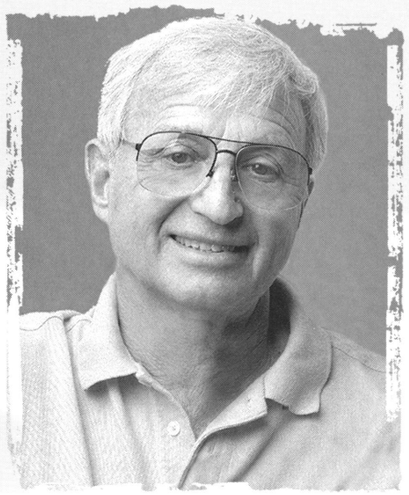
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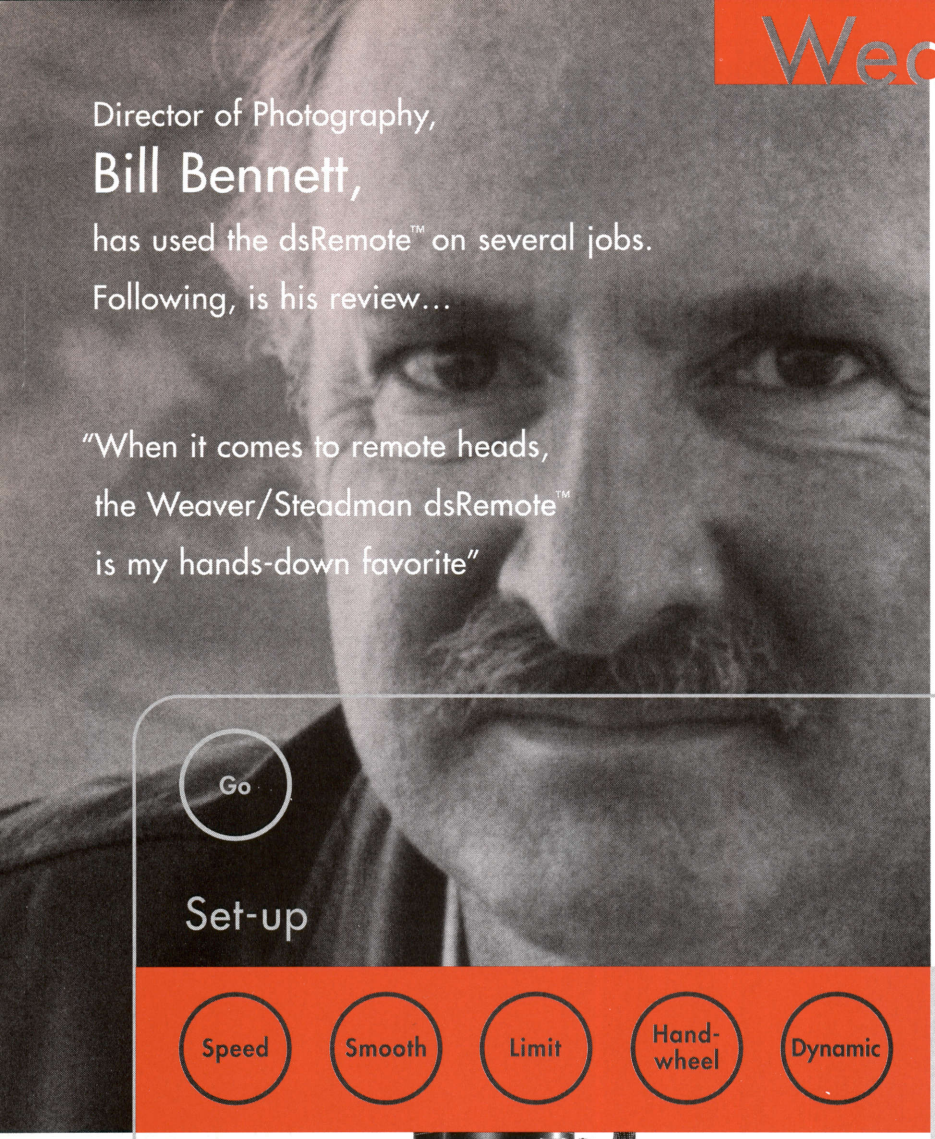
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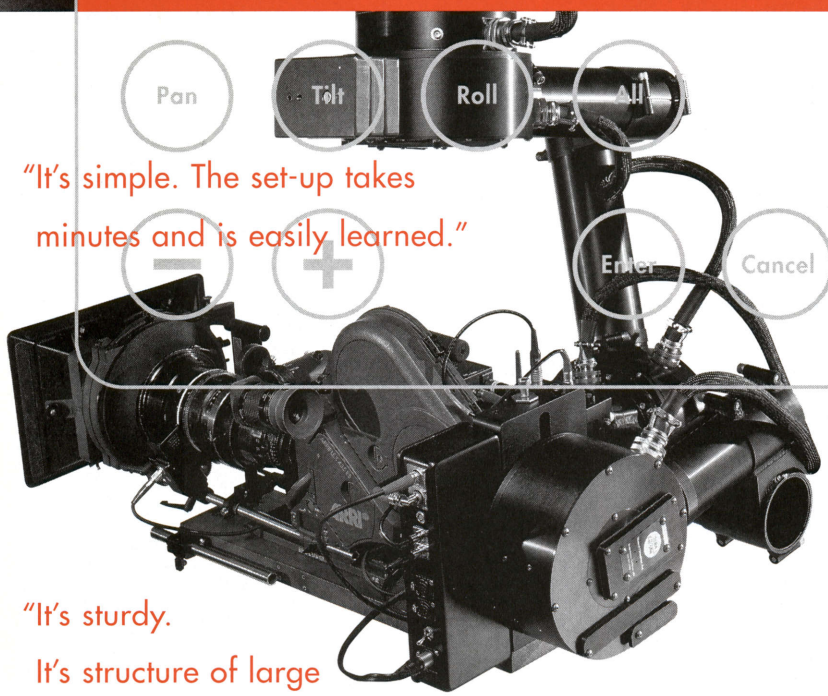
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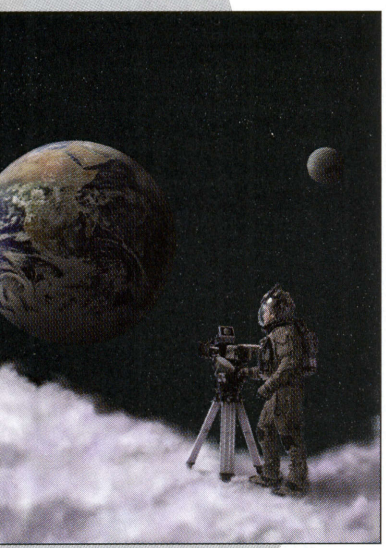
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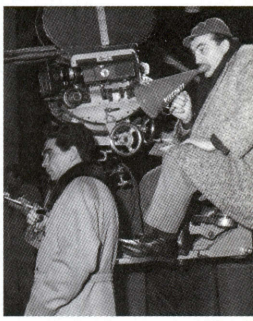
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On Our Cover:
In an homage to a classic *AC* cover from 1922, the "cinematographer of the future" trains his very advanced camera on the cosmos. For the production credits and other details on the making of this special 80th Anniversary cover, see page 197.

Contributing Authors:
Mark Dillon
Jay Holben
Naomi Pfefferman
David Samuelson
Holly Willis



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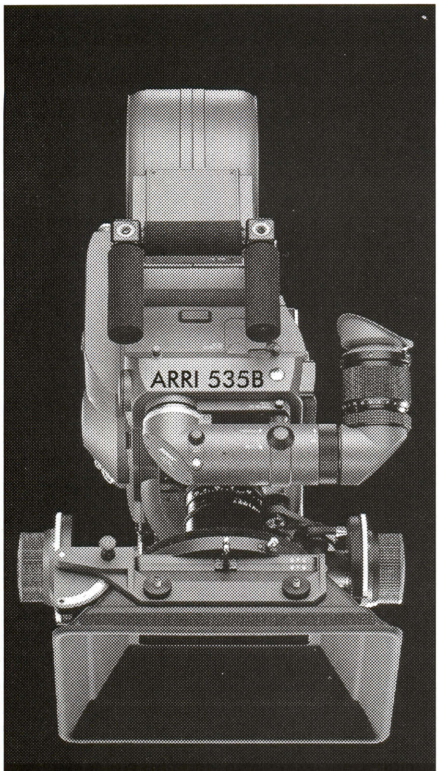
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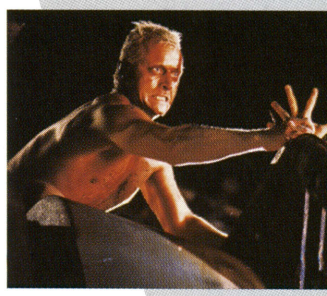
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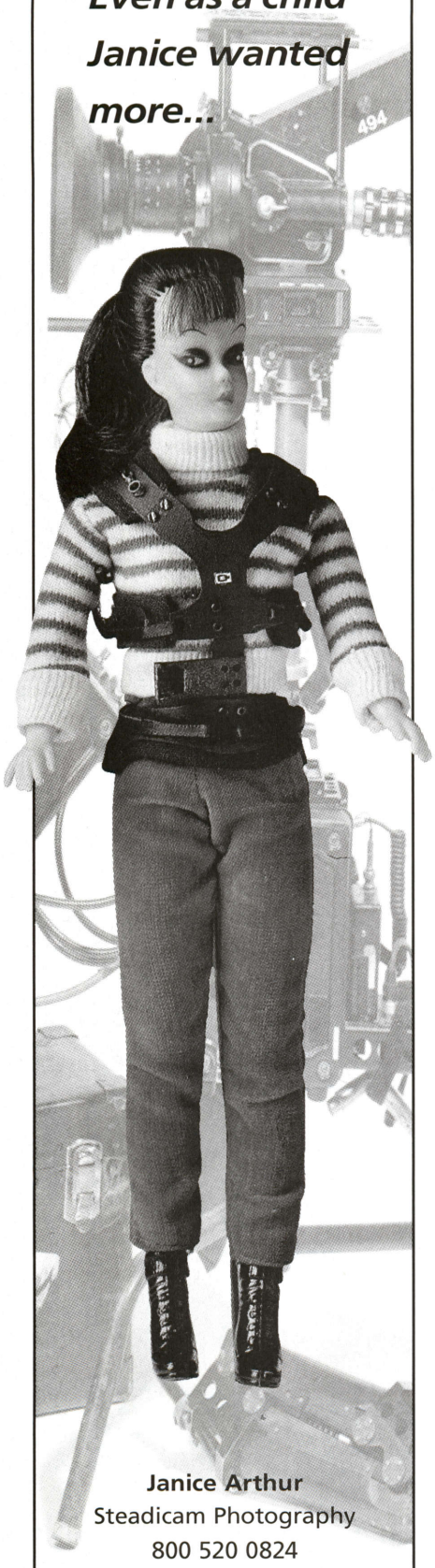
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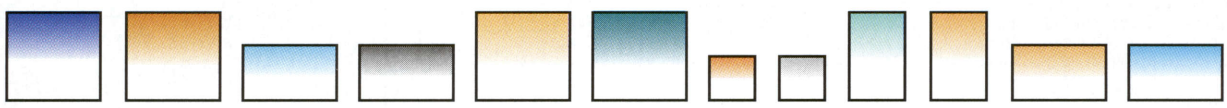
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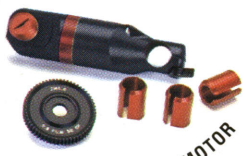
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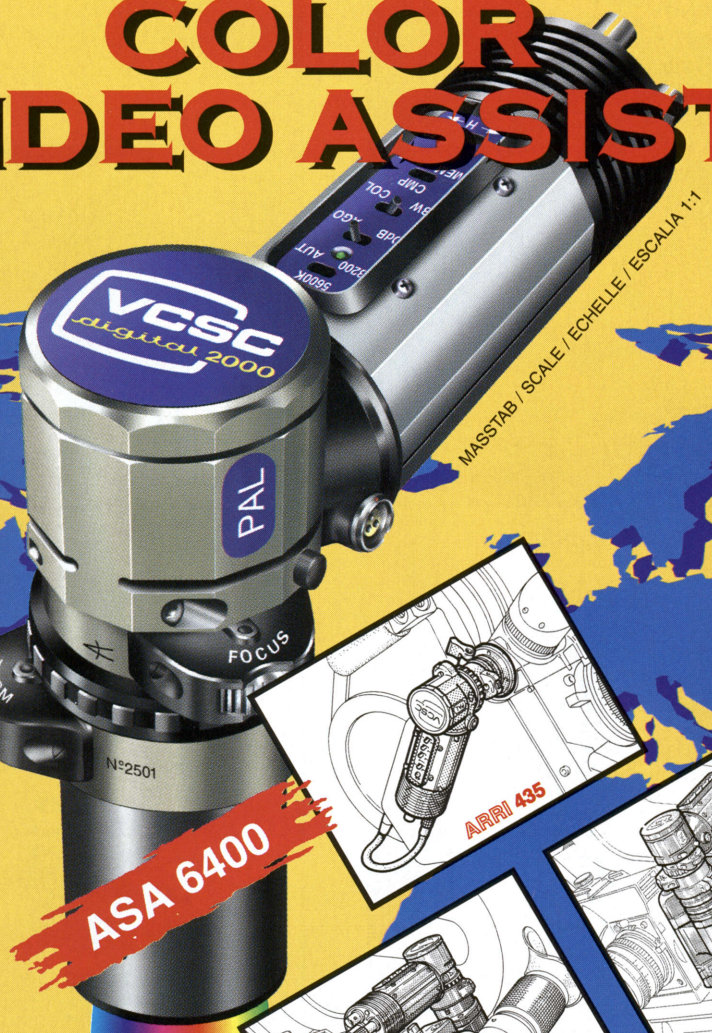
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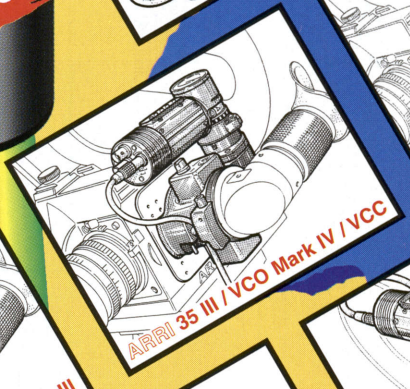


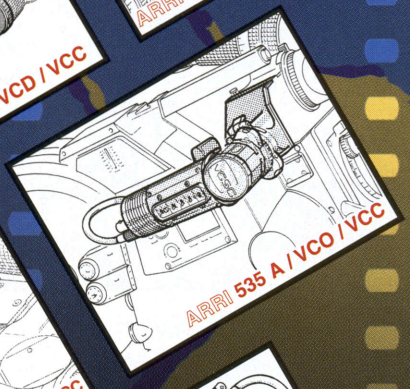
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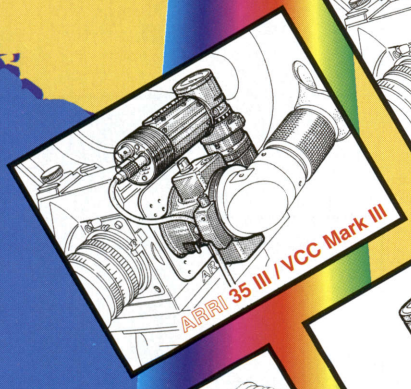
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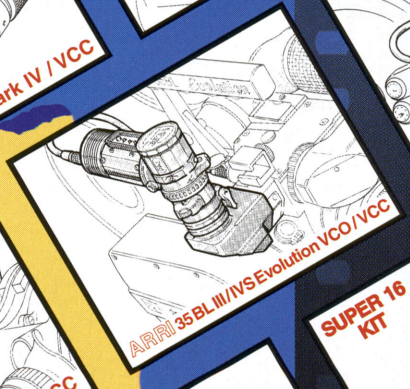


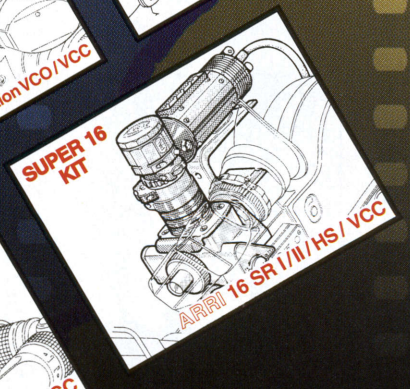


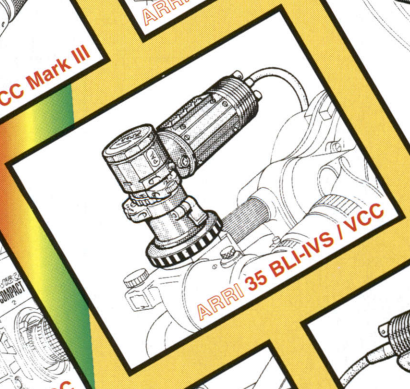


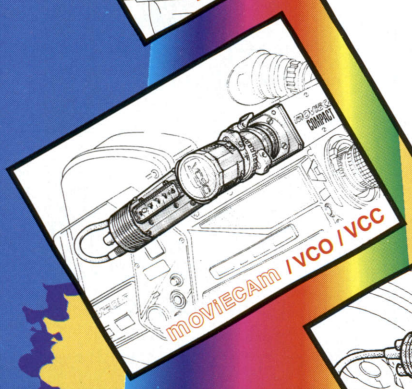


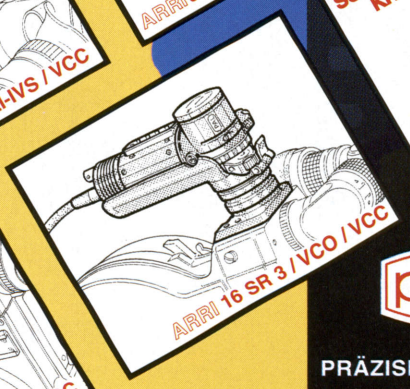


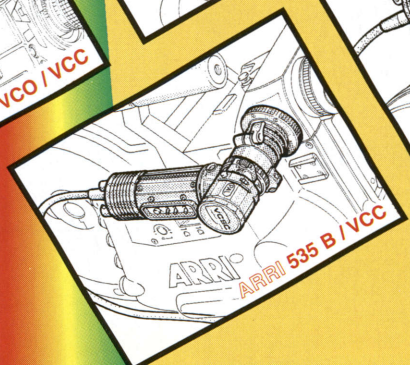








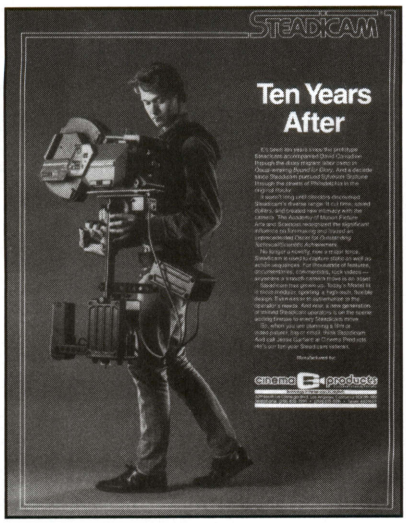




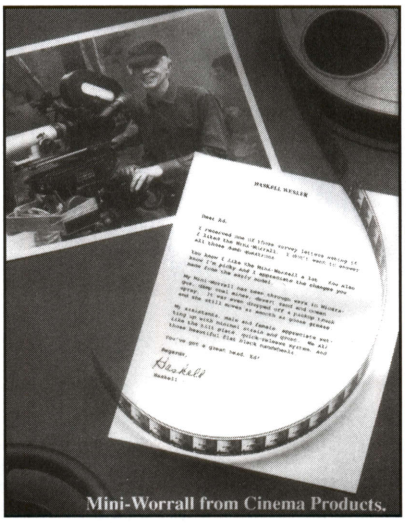
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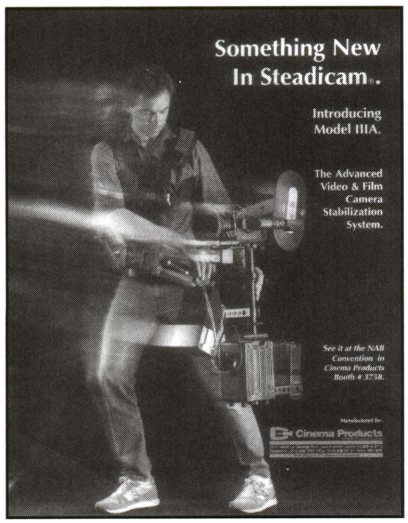
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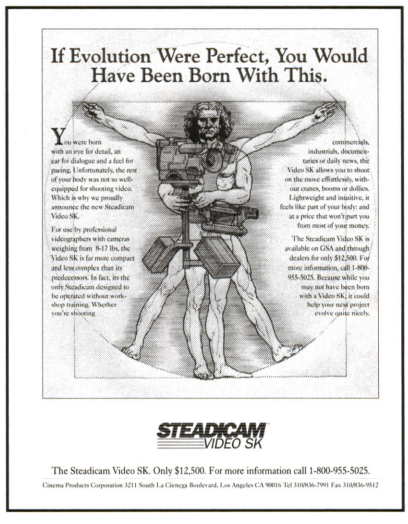
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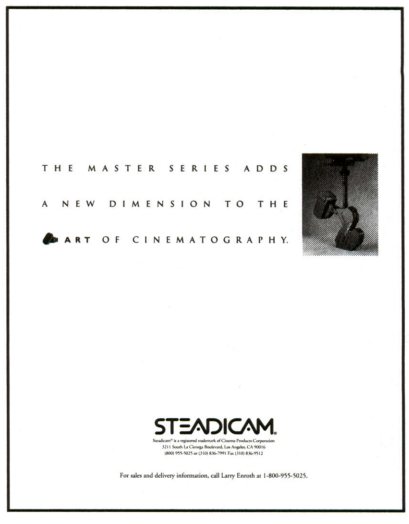
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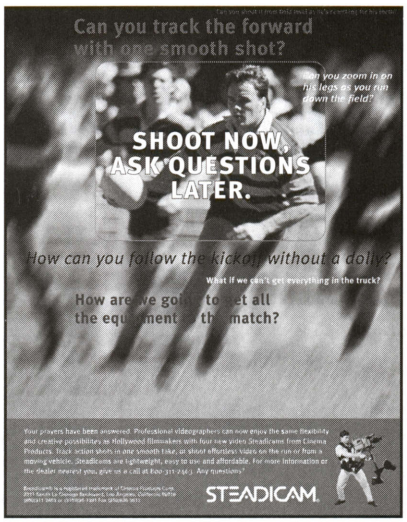
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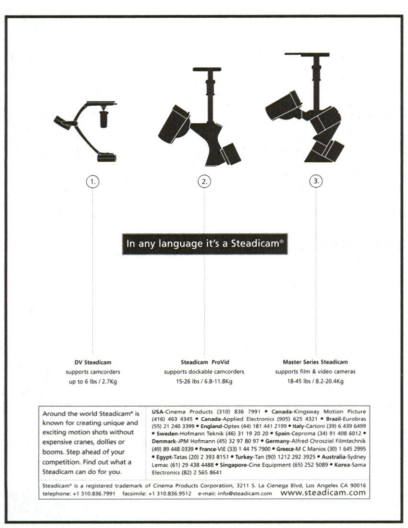
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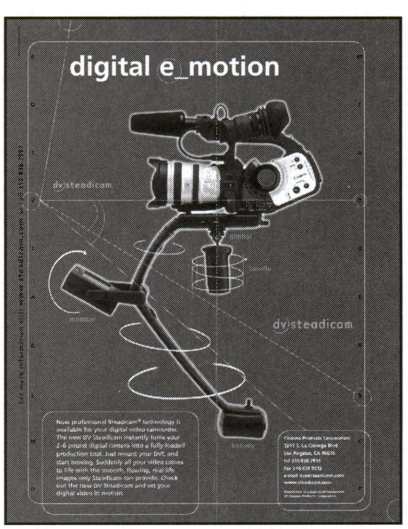
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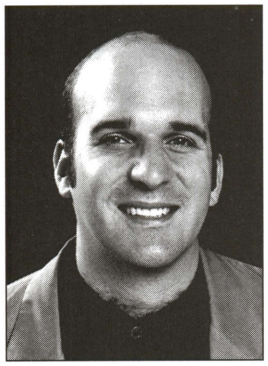


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Editor's Note



Eighty years ago, the ASC printed up the very first edition of *The American Cinematographer,* a newsletter-style publication "dedicated to the cameramen." Since that auspicious day, *AC* has evolved into a magazine of worldwide reach and influence.

In celebration of the past eight decades of journalistic excellence, we have striven this month to create a truly unique (and extra-thick) issue packed with surprises. In addition to our regular features, this edition of *AC* offers a special anniversary section that begins on page 98 with a two-page "Illustrated History of the ASC" by the talented team of Chuck Roblin and Ray Zone. This dynamic duo's "Living Pictures" feature, a hand-drawn history of motion pictures, will grace each future issue of the magazine. The section's subsequent pages (100-187) boast the results of the first-ever *AC* Reader's Poll, which offers your opinions on the best-photographed motion pictures of all time; selected reprints of classic *AC* articles (including the one you've most often requested: Jordan Cronenweth, ASC's thoughts on *Blade Runner*); David Samuelson's personal survey of the film industry's most influential technological advances; and a complete listing of Academy-, Emmy- and ASC Award-winning cinematographers.

To kick things off on an appropriate note, I've also pillaged a piece from that very first issue of *AC* — an insightful (but uncredited) gem titled "The Cameraman." Following are the unknown author's words of wisdom, which still ring true today:

"The man who works the camera must be a thoroughly decent fellow or else he could not hold his position, as he has much to contend with and much is laid upon his unhappy head which should be blamed elsewhere — faulty direction, faulty chemicals, or faulty work in the darkroom.

"The importance of the cameraman is paramount. Without him no good picture can be taken. He must be a many-sided individual to continue in his position successfully. He must, first of all, be able to take good pictures; apart from that, he must necessarily be a brave man and ready to attempt anything asked of him. He must be clear-headed, so that he can stand on the edge of a skyscraper, and lean over the top of a precipice, for that matter. He must perch himself in almost incredible angles, and perhaps stand waist-deep in the river or ocean. He must stand steadily by his work when some wild beast comes menacingly close, while the other members of the party can run to shelter, and all the while he must steadily crank, and see that his camera is not injured by fire, animals or water, and it is a matter of record that very valiant deeds are performed by the cameramen, deeds that few actors or directors care to brave.

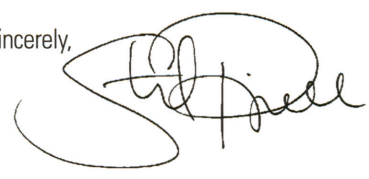
"The average cameraman is a fatalist and a stoic, and he must have the temper of a saint, for the best of directors are irritable at times, and even cameramen are liable to make mistakes, liable to start on a scene without enough film in the box, liable at times to be out of focus, for he has many, many things to think about, and he has to think quickly and be prepared for emergencies.

"The modern cameraman is for the most part a silent individual; he is more or less preoccupied with his work, and has not much time to mix with the players. He has to prepare the camera and magazines in the early morning, and when he returns from the day's work he is occupied with seeing results, so that if there are any retakes, the company may be ready to remake the scenes the following day. By the time he is through with his work, he is ready to go home and stay there, for he needs all the rest and sleep he can get as a rule, and he knows he cannot afford to allow such things as nerves to attach themselves to his system. The cameraman leaves little things like that to the players and the directors, and endeavors to go his own way serenely.

"The man who works the camera must necessarily be a student, otherwise he will fall into a rut, and then — oblivion. There is so much excellent photography today, and so many new effects being thought of, that a conscientious man is forever thinking of some new and startling effect or innovation — something new, of which he may be proud, and yet he knows that his name is not likely to be mentioned when something particularly new, even of his own creation, is shown on the screen. He is content that it is the child of his brain, and that his fellows of the camera know of his feat.

"The cameraman is slowly, surely, coming into his own as screen developments attest his worth."

Sincerely,



Stephen Pizzello
Executive Editor
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The Post Process

Film and High-Def Do the Tango

by Debra Kaufman

The title sequence for *Three to Tango,* designed and directed by Bruce Schluter of Greenberg/Schluter, is a case study of how new technologies can enable creative ideas that would otherwise be hampered by limited budgets. In particular, *Tango*'s titles blend high-definition and 35mm footage with both digital and optical compositing, a mix that made for a high-quality, low-budget process.

The Outlaw Productions feature, directed by Damon Santostefano and photographed by Walt Lloyd (*Sex, Lies and Videotape; Kafka; Feeling Minnesota*), is a romantic comedy aimed at a youthful audience. To reflect its plotline about two men pursuing the same woman, designer/director Schluter conceived the idea of a trio dancing to tango music. "I always see a great film title as a metaphor for the movie — it acts as an overture," explains partner Richard Greenberg. "As title designers, we have to get into the head and sensibilities of the director. We don't want it to look as if it's a separate piece of film."

Though director Santostefano liked the idea of using dance to portray two young men vying for one woman's attention, he preferred swing music, and selected a tune by the Brian Setzer Orchestra. The title sequence is a definite nod to retro style — what Schluter calls "a musical James Bond sequence" — as the silhouettes of three dancers jump and jive on and around oversized instruments: dancing on the lip of a trombone, jumping up and down on trumpet keys, and popping out of the holes in a microphone. Interspersed with brightly colored, high-contrast footage of the musicians, the title sequence is a lively, fun and clever mix of graphics and live action. The dancers were designed to be silhouettes, which added to the title's graphic look. "Most titles are either type over live action or very graphic," remarks Schluter. "In this sequence, we made the people very graphic and placed the type over that — it was the best of both worlds."

According to Schluter, the process of creating film titles has changed dramatically. He points out that "digital compositing has become faster and more affordable, so now we're allowed to explore and create beautiful moving images." After observing swing dancers in action at a local nightclub, Schluter sat down with choreographer Travis Payne and drew storyboards to fit the requirements of the title sequence. "Each location, each instrument, dictated the kind of performance they could do," explains Schluter.

To capture silhouettes, Schluter decided to shoot the dancers against a greenscreen. He had initially planned to record these images on film, but the cost of doing so and then scanning the footage into a computer exceeded the project's budget. The eventual solution was to shoot the dancers in high-definition video, which would not only avoid film processing and scanning, but immediately bring the performers into the digital realm.

With director of photography John Lindley (*Pleasantville, You've Got Mail*), Schluter directed a planned two-day shoot, which turned into one very long day with 40 setups. First, they shot the professional musicians and their instruments on 35mm film. Next came the high-definition shoot involving the dancers, for which Lindley used a Sony HDCAM package rented from Plus 8 Video. Reference footage from the film camera's videotap was used to ensure that the dancers — who pranced atop

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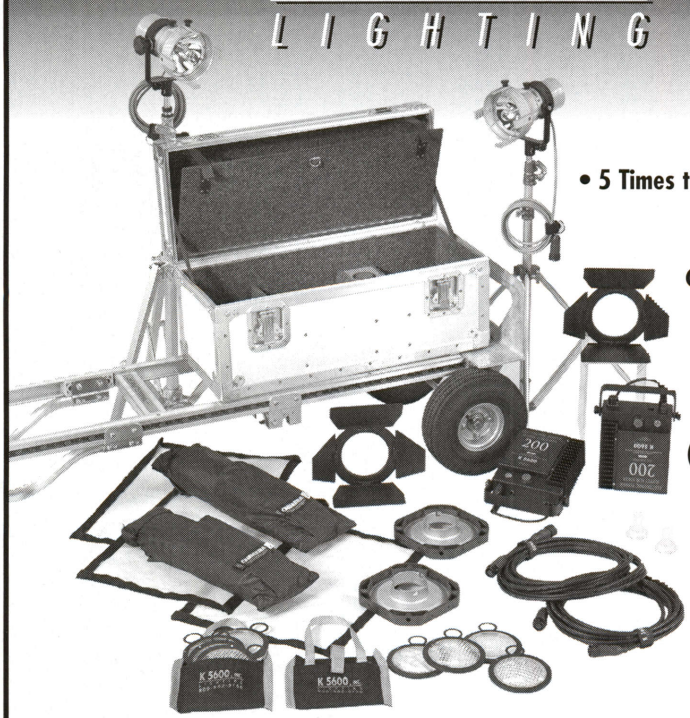
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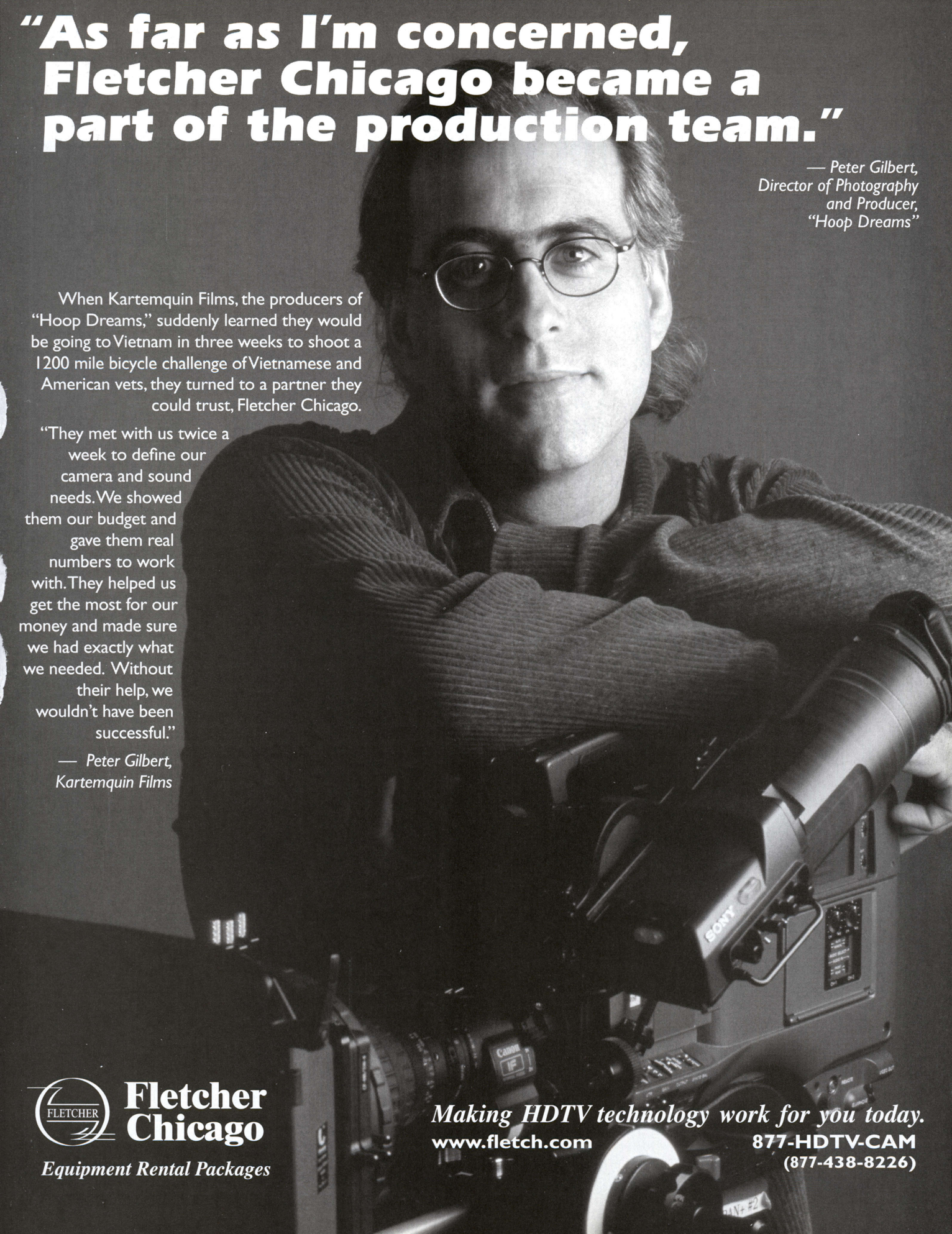
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oversized models of various instruments — would be in perfect position.

Postproduction of the *Three to Tango* titles was done at Pacific Title/Mirage. According to president Phil Feiner, the first step was to play back the HD (1920 x 1080 interlaced) footage on a Panasonic HD D-5 deck and dump it into a Sierra Designs HD disk array. Next, the film backgrounds were scanned at full res (4K x 3K) Cineon resolution (with Genesis Plus scanners) and, using proprietary software, downsized to 1920 x 1400. Retaining a 1.33:1 aspect ratio, Feiner's team ran the HD footage through Cineon's CineSpeed to convert the material from 30 fps to 24 fps, and then composited the layers with an Inferno. The final step was to make a custom file size to record out a 1920 x 1400 digital IP, using Pacific Title/Mirage's Kodak Lightning 2 laser film recorder. In a quirky final step, the text titles were then composited into the backgrounds optically, a digital/optical combo fittingly described by Feiner as "d/opticals." Explains Schluter, "I had picked a classic serif with thin lines as the type. We did a digital test, and the type didn't look as clean — it was too soft. Pacific Title/Mirage and I agreed that digital text isn't as crisp as optical, so we output a textless version of the sequence and then composited the type optically."

From Feiner's point of view, the postproduction of this HD/film hybrid title sequence was really quite simple. There were what Feiner calls "a few bumps in the road": most notably, the challenge of protecting the HD material in a 1.33:1 aspect ratio for future video distribution, as well as the unanticipated power needed for the CineSpeed process. "We had to really think about the whole process and map it out beforehand," says Feiner. "But we developed a process, and it worked well. Once we got everything down, it was pretty easy."

Given the often limited budgets allotted to title sequences, and the high artistic expectations of title designers/directors, using HD video may prove to be a popular solution. ■


"As far as I'm concerned, Fletcher Chicago became a part of the production team."
— Peter Gilbert, Director of Photography and Producer, "Hoop Dreams"
When Kartemquin Films, the producers of "Hoop Dreams," suddenly learned they would be going to Vietnam in three weeks to shoot a 1200 mile bicycle challenge of Vietnamese and American vets, they turned to a partner they could trust, Fletcher Chicago.
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— Peter Gilbert, Kartemquin Films
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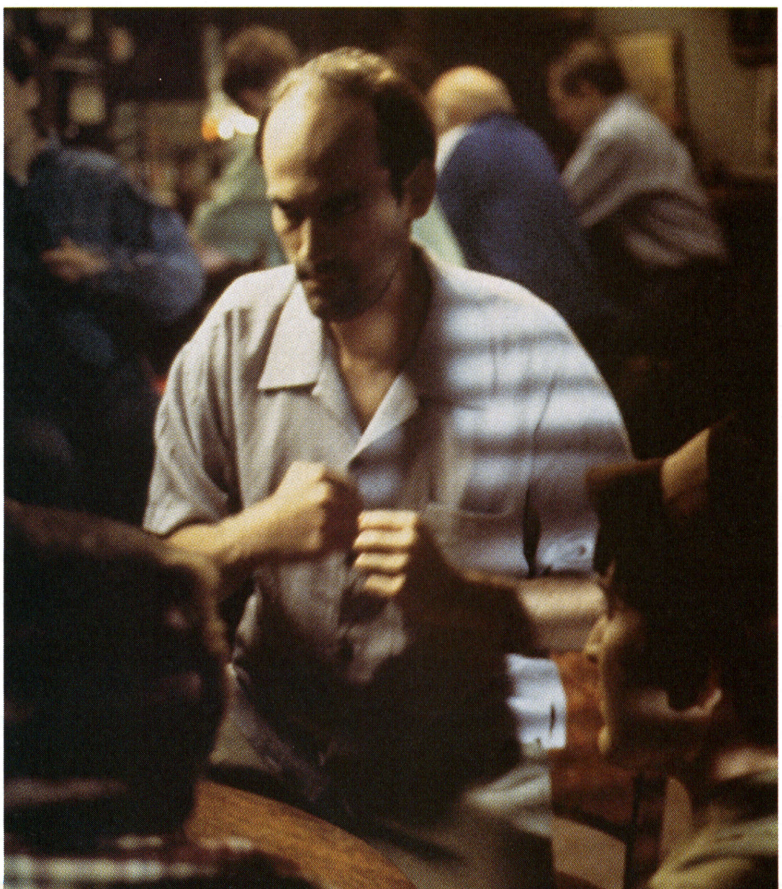
Production Slate

compiled by Andrew O. Thompson

The Road to Nowhere
by Eric Rudolph

The lead character of *Going Nomad* is burdened with the grandiose name of El Cid Rivera (Damian Young), a heroic moniker that the 33-year-old struggles to live up to while drifting at the fringes of urban society. Every night at a quiet bar, he talks a big game with his like-minded, similarly underemployed buddies. But the majority of this drifter's energy is channeled into overnight driving marathons during which he pilots his gigantic, gas-guzzling Ford Lincoln through Manhattan's streets. As a self-styled "Asphalt Nomad," he relishes the wide-open, empty spaces of a temporarily-deserted world capital.

Soon enough, however, El Cid's life is impacted by his old nemesis Geraldine Fusco (Jourdan Zayles) — whom he once viciously assaulted in a fourth-grade game of dodge ball. Clad in a tight-fitting police uniform and sternly slapping a nightstick in her palm, Officer Fusco is a threatening and enticing figure to Cid — around whom she hovers, emanating the threat of retribution. One day Fusco breaks out in a run after the reedy, balding Rivera, tackling him and pulling his arm behind his back. She then surprises El Cid and herself by asking him out. An odd romance flowers until Fusco heeds her lifelong calling to become a Texas Ranger.



Perpetual slacker El Cid Rivera (Damian Young) promotes his nonsensical philosophy at the neighborhood bar in *Going Nomad*.

Photos by Francis Westfield and Jonathan Mannion

"I wanted to show that the small man can still be heroic, and to show New York City as a small town where glimpses of heroism are still possible," says Art Jones, the writer/producer/director of *Going Nomad*. "Cid is an extreme example, but I think just about everyone has sat around with friends, saying 'I don't like what I'm doing, I was meant for better things.' Invariably, someone will reply, 'Well, go do something about it!' At one time or another we all realize we don't have a clue as to how to take even that first step."

Going Nomad has been unspooling successfully at various festivals around the country, gaining fans and good reviews along the way. This $450,000 film about hard-core urban slackers came to life in full 35mm glory thanks to an energetic director who is anything but a go-with-the-flow type: he was once an account executive with marketing giant Grey Advertising until he left to head up Great Jones Productions, a Manhattan-based industrial film production company that's existed since the early Nineties.

To capture the elusive dreams and longings of El Cid and his cohorts on film, Jones enlisted director of photography John Inwood, a longtime stalwart of New York's indie film scene whose feature credits include *Bottomland*, *The Daytrippers* (see Production Slate in *AC* March '96) and *Six Ways to Sunday*. A key challenge for Inwood was translating the elusive magic of Cid's late-night auto cruises onto the screen. To enhance the driving scenes, he utilized black nets on the backs of Zeiss Superspeed prime lenses mounted to an Arriflex BL-4 to

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Asphalt nomad Spud (Craig Smith) tells his tales of nighttime New York City journeys.

"soften and blow out the highlights, especially the car headlights." He notes, "Inevitably, there will be comparisons to *Taxi Driver* [shot by Michael Chapman, ASC], but we were after a completely different look. *Taxi Driver* is hard-edged; El Cid's world is softer and much more dreamlike."

Inwood, who shot a great deal of *The Daytrippers* while seated inside a cramped, day-lit station wagon with his actors, had to take a different approach to the solo car sequences of *Going Nomad*. He towed Cid's ride with a camera car and used lights inside and outside, as well as fast film and the Superspeed lenses. "Obviously I couldn't light the whole city," he says. "We ended up shooting wide open at T1.3 while using Kodak's 500 ASA EXR 5298 stock. On the dashboard, we had just a 6" tungsten-balanced Kino Flo, gelled with a ½ plus-green. The tiny Kino Flo provided a little fill, maybe half of what a key light would've been for Cid's face." This low-key, in-car lighting schematic effectively avoids the visual pitfall of having the driver appear overlit.

Aware that available street lighting wouldn't give the city the desired "comedic" ambiance, Inwood hit the near background with a camera-car-mounted Par light (gelled with ½ plus-green) to open up shadow areas. "There's a lot of green in the streetlights in New York," continues Inwood. "So in addition to staying with the look of the green-gelled lights, I also wanted to tone things down in the overall background. I used an FLB filter on the lens — losing about ½ a stop — but the colors look good. Overall, there is not a lot of cyan in the background. I wanted warm, soft, colored light, not a greenish haze."

To gain further control of this movable *mise en scene,* Inwood often panned a strongly-gelled green, blue or red light — mounted on the camera car — across the windshield or the side of Cid's vehicle.

In addition to the 5298 he exploited for night work, Inwood employed 100 ASA EXR 5248 for day exteriors and some day interiors. A sparing number of day scenes were caught on daylight-balanced 50 ASA EXR 5245, while the extensive bar and apartment interiors were filmed with 200 ASA EXR 5293. To save money, all emulsions were purchased from other productions through New York's Raw Stock clearing house. "That was a bit of a risk," Inwood admits. "The cans were all complete and unopened, but we were never absolutely certain that a can hadn't been sitting on a radiator or in the sun." Fortunately, the filmmakers didn't come across any bad stock.

The Asphalt Nomad's vehicles of choice are the full-sized American cars of the early Seventies, the kind often referred to as "boats" or "land yachts." To emphasize the cushy vehicles' expansiveness, Inwood photographed them as often as possible with wide lenses, particularly a 12mm and 18mm. "For driver's-side shots of Cid, we mounted the camera out farther than usual. With the 18mm, you see much more of the car than you're used to. We used a 12mm lens for his final 'perfect ride,' and it seems as if you can see the entire car. During one of these scenes, he turns a corner near Times Square, and the combination of the lights with the wide shot of the light reflecting off the body of that big car is quite beautiful."

While wide lenses were favored for the car shots, and "because *Going Nomad* is a comedy," Inwood also used 85mm and 135mm lenses, especially for images of Officer Fusco, the tough cookie with a tender heart. "We wanted her to look good and for the background to drop out of focus," the cinematographer explains. Fusco also had the benefit of a Tiffen ¼ Black ProMist filter. Aside from the netting placed behind the lens during the shooting of night exteriors, however, *Nomad* was primarily photographed clean.

Though the production had the streets mostly to themselves while filming overnight driving sequences, the daytime shoots in Manhattan were another matter entirely. "We kept the crew small, so we could turn on a dime," says Inwood. A scene in which Cid helps his pal Chuckles go north of 14th Street for the first time was mainly a "stolen" sequence achieved with handheld and long-lens shots. Per his personal preference, Inwood employed reflectors to control the natural light.

The filmmakers did manage to grab one spectacular location despite the fact that the production wasn't permitted to shoot on the site. In one scene, Cid summons Chuckles to a meet him under an elevated section of Riverside Drive near the George Washington Bridge, where he holds court with a grandiose presentation of his ever-confused philosophy. The roadway above the characters is supported by a series of huge steel arches that continue on in a straight line, seemingly forever. "It is a setting with the wind, echo and visual sweep worthy of a Charlton Heston epic

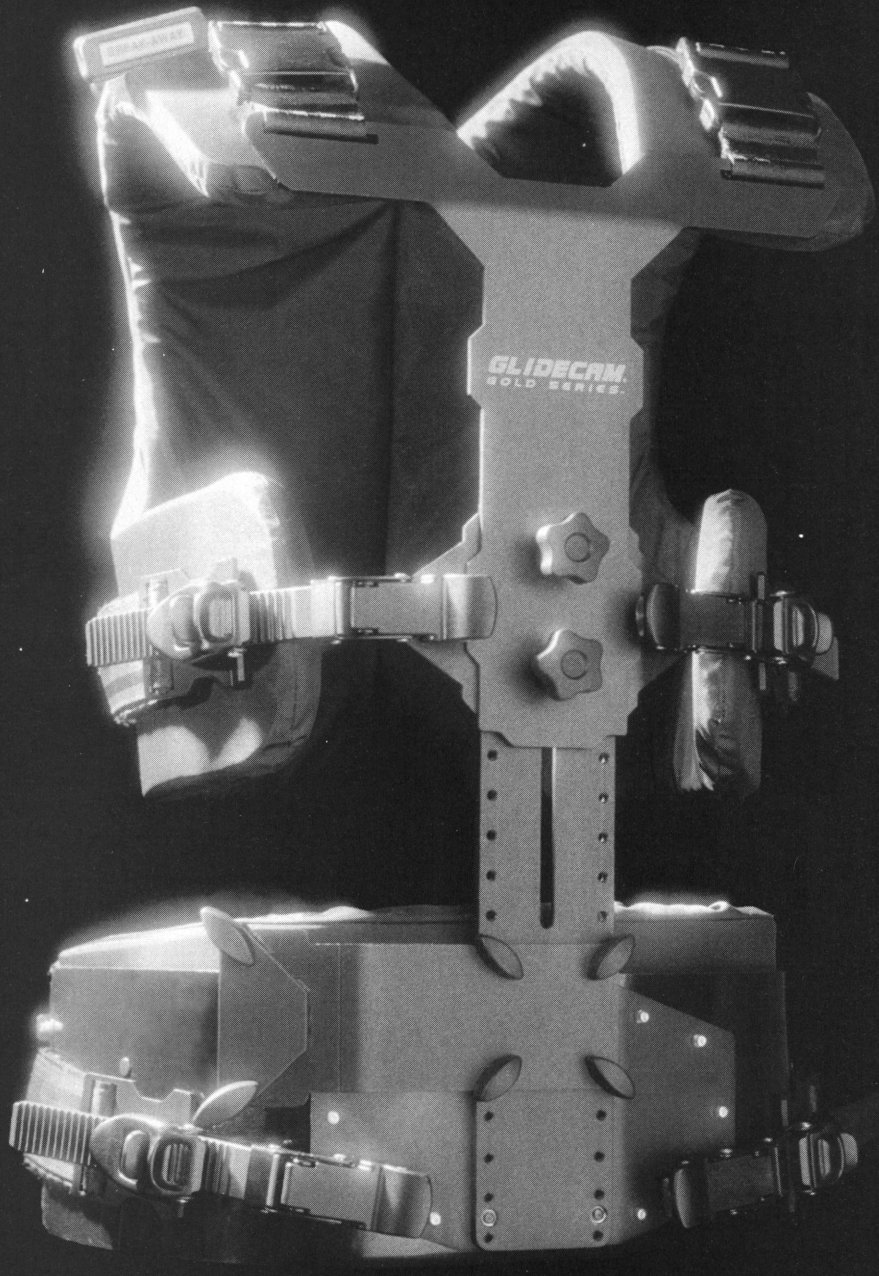
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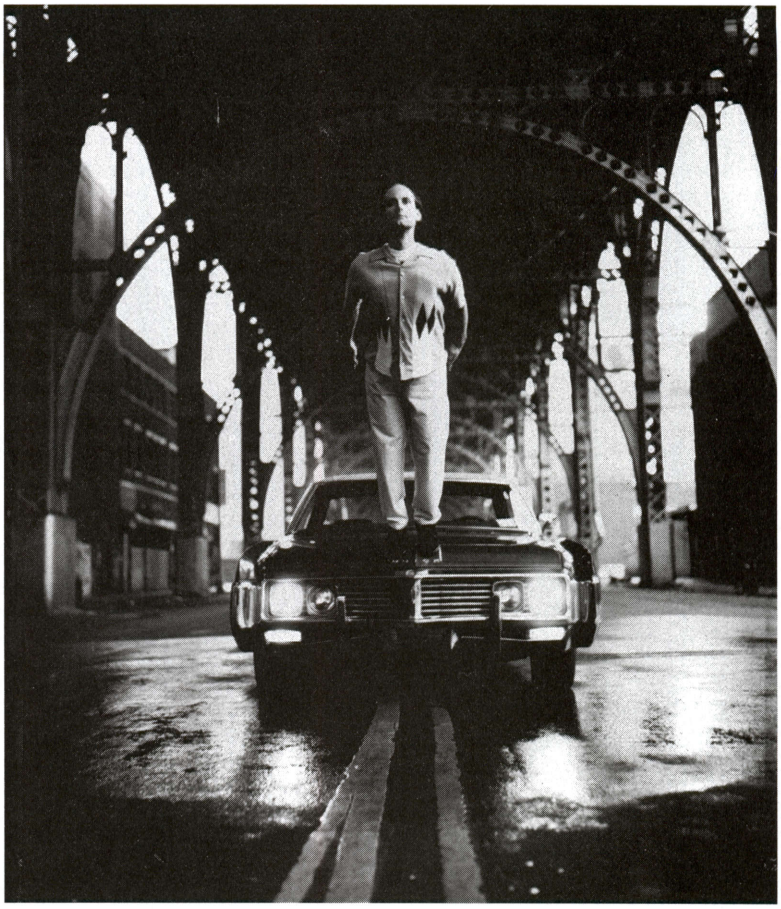
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El Cid strikes a majestic pose under the backdrop of Riverside Drive's corrugated archways.

hero," says director Jones, who acknowledges a bit of a fixation with the legendary actor of such epics as *The Ten Commandments, Ben-Hur* and yes, *El Cid*.

Jones had initially planned to simply capture a still photo for use as the film's key art under the arches of the Drive. The image he had in mind was a shot of Cid striking an ornament-style pose on the hood of an Asphalt Nomad vehicle. The director resorted to the elevated roadway only because the location originally selected for Cid's impassioned exegesis was being drenched with rain. Though the Drive's backdrop of grandly receding support trestles proved more majestic than the original choice, there was still one problem: the production only had a still-photo permit. Jones notes, "The police escort from the Mayor's Office of Film and Television told us to forget about it. However, we'd lined up the shot and I asked the officer to humor me and take a look through the viewfinder at the shot of the arches. After he did, he said "You got it!" and set up cones and redirected the modest traffic in the area. We shot for four hours!"

Jones views this key scene of one man's running monologue as the central core of *Going Nomad*. "Cid has a glimpse of the greatness that eludes him, and that eludes us all. It was an important part of the film, because I think everyone wants to feel that moment of self-confidence and of being fully alive. No one in the audience is going to go out and lead an army into battle, and neither is Cid. This was a chance to give Cid and the audience that brief glimpse of heroism within a great setting."

When not shooting semi-guerrilla style on the streets of New York, *Nomad*'s cast and crew worked at a studio just north of the city's Westchester County suburb. Explains

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Inwood, "We shot the bar and Cid's apartment interiors at set builder John Romeo's studio. The sets had been built for another production, so it was affordable."

The nameless bar where Cid and his pals Chuckles, Tully, Eddie and Rev meet every night (and where even a slight change in group seating arrangements causes controversy) is dimly lit and reminiscent of an Edward Hopper canvas — a place that's been gradually reduced by time and the city's gentrification. The set was illuminated simply, with cool hard light outside and a warm soft source indoors. Blue-gelled Fresnels were positioned outside of the set's windows, producing patterns through their venetian blinds. Inside, the key light came from a gold-gelled Kino Flo. This source was ostensibly motivated from the bar area across from the windows, and the boys' table. In reality, the fixture hung almost on top of the table from the studio's grid. Accent lights were used to enhance the requisite bar decor, such as a dartboard.

"There was an enormous amount of material to film in the bar, so there was minimal tweaking of those two sources from shot-to-shot," Inwood explains. "We only did a considerable amount of relighting if a character looked toward both light sources in a shot." The cinematographer gratefully credits his long-time key grip, Ben Wolf (who worked for cameraman John Thomas on *Under the Bridge*, see L.A. Indie Film Fest coverage in *AC* June '97), for stepping in as cinematographer on several days' worth of bar sequences while Inwood was ill.

While Jones admits that he sometimes feels lost when Inwood talks about photographic detail, he has nothing but enthusiastic praise for the cinematographer and his longtime crew. "Through the lighting, composition and subtle dolly moves, John Inwood, Ben Wolf, and the gaffers, Joe Foley and Sean Sheridan, really gave the film a big taste of the 'little man as an epic character.' They were great at punching in at key dramatic moments. For example, when Cid is done leading the terrified Chuckles across 14th Street, there's a shot that drops below his chest; as we look up at Cid, he has a heroic profile and that sharp chin line. We borrowed several techniques from Heston and Victor Mature films, and they lent just the right touch to *Going Nomad*."

War and Remembrance
by Naomi Pfeifferman

Soon after arriving at Auschwitz, Renee Firestone found herself standing naked and shivering within the bowels of the concentration camp. Then a teenager, she plucked up the courage to ask a Nazi soldier if she could see her parents. With a sneer, the conscript pointed to the plume of thick black smoke belching from the crematorium's chimney.

In *The Last Days* — the third documentary from Steven Spielberg's Survivors of the Shoah Visual History Foundation — Firestone and four other Hungarian Holocaust survivors return to the hometowns and concentration camps where they suffered during World War II's final weeks.

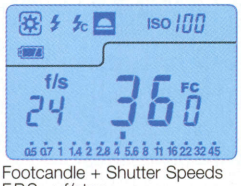
Combining rare archival film footage, still photographs and survivors' testimony, the documentary describes a little-known chapter of Holocaust history. "The war was essentially over for the Nazis when they invaded Hungary in 1944 and launched a full-scale genocide, going so far as to even sacrifice their own war efforts to carry on 'The Final Solution,'" explains director/editor



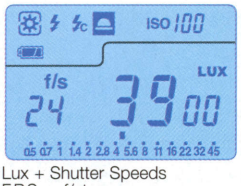
Holocaust survivor Bill Basch and his son, Martin, console one another outside of the Dachau concentration camp during the filming of the documentary *The Last Days*.

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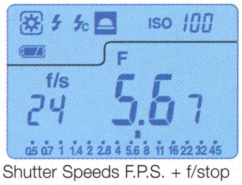
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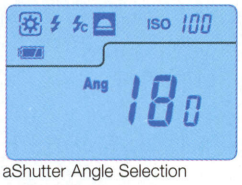
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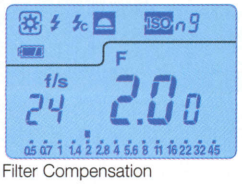
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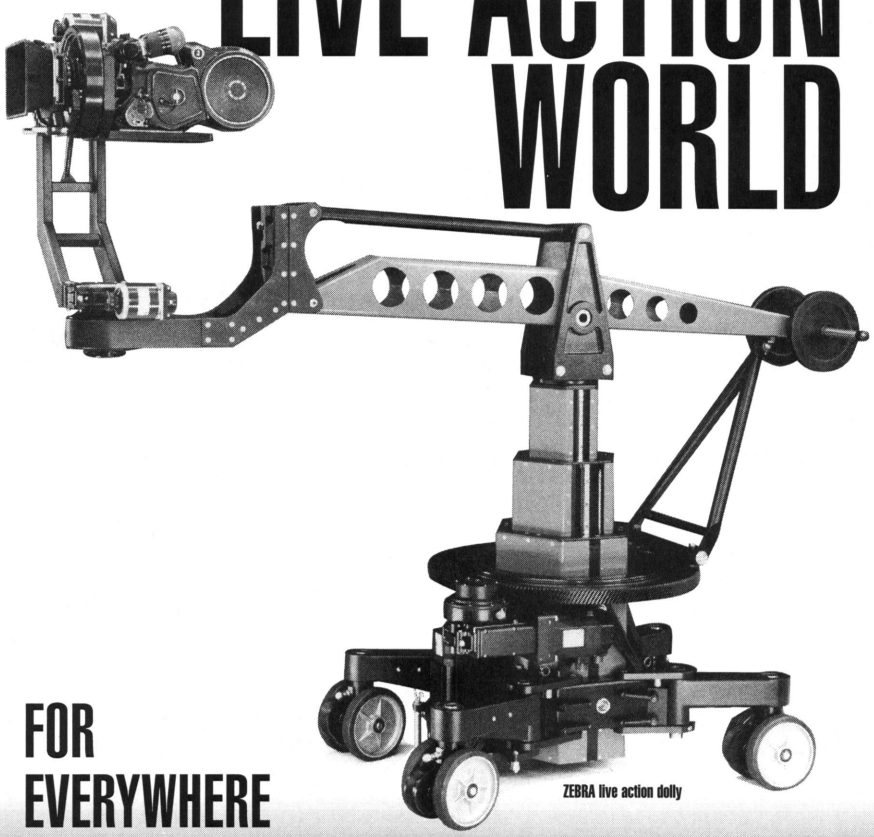
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James Moll, a founding executive director of the Shoah Foundation.

The feature-length film is filled with poignant pieces of personal memory: Firestone remembers the five-day train ride to Auschwitz — in a cattle-car crowded with 120 people — without food, water or bathroom facilities; Irene Zisblatt recalls her incarceration in a dark, wet dungeon, where she endured a Nazi medical experiment; artist Alice Lok Cahana speaks of celebrating the Sabbath in the Auschwitz latrine; businessman Bill Basch describes a wintry death march; and U.S. Congressman Tom Lantos reflects upon the dangers of working for the underground in Budapest. Other interviewees include a former Nazi physician, three American veterans who helped to liberate Dachau, and a former *Sonderkommando* — a concentration camp inmate forced to clear and cremate bodies from the gas chamber.

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Distributed by October Films, *The Last Days* is the first theatrical release by the Shoah Foundation, which Spielberg created in 1994 to videotape and archive testimonials from more than 50,000 survivors. The Foundation has also produced a CD-ROM and two acclaimed TV documentaries — the Emmy Award-winning *Survivors of the Holocaust* (see *AC* January '96) and *The Lost Children of Berlin*.

Before Moll started up the Foundation with *Last Days* producer June Beallor, he wrote, directed and produced dozens of educational and promotional films on various social issues, such as aging and the environment. In the Foundation's early days, Moll called on his old USC film school chum, cinematographer Harris Done, to shoot the first test interview with a survivor. Last year, when the Foundation embarked upon *The Last Days*,the director once again recruited Done, who has photographed some 20 independent films, including *Ocean Tribe* (see L.A. Indie Fest coverage in *AC* June '97) and the quirky documentary *Trekkies* (*AC* Jan. '99).

While Moll and his research team perused Foundation archives for five diverse Hungarian subjects, he and Done made the decision to film *Last Days* in 35mm, even though much of the documentary would have to be shot handheld. "James and I went over to Technicolor, where they had lined up a 'Super 16 versus 35mm' test for us," says Done. "On the one hand, I thought, 'There is no simple way to travel with 35mm gear. The camera package alone is going to fill 28 cases, which we're going to have to tote from Munich to small towns in the Carpathian Mountains. The camera will take longer to reload, it's going to weigh about 45 pounds, and I'm going to take the brunt of the abuse.' On the other hand, both James and I realized that when the survivors were telling their stories, when they were *feeling* things, the detail in their faces would be vivid. In Super 16mm, there's just not as much resolution, and the wider the shot, the less information you see."

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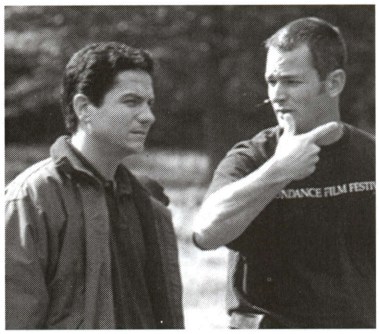
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Right: Cameraman Harris Done shoots Congressman Tom Lantos with his grandchildren as they walk along a bridge in Hungary where Lantos toiled in forced labor during the Holocaust. Below: Director James Moll (left) and Done discuss a setup at the site of the Bergen-Belsen camp's mass graves.





top priority, Moll opted against the use of narration: he wanted the piece to be formed around personal testimonies. For accuracy's sake, he also refused to use staged "representational" footage. Instead, his researchers scoured archives worldwide for accurate visual depictions of the survivors' specific stories. Moll expands, "Once we determined which images we wanted to include in the film, we ordered copies in 35mm, if they were available, or in 16mm, which Pacific Title bumped up to 35mm. Then we had to deal with all of the cropping and aspect-ratio issues to be able to deliver both a theatrical and a TV version — it was a nightmare."

Cinesite did a great deal of stabilization and restoration work on reams of shaky and damaged archival film. However, some of the most gripping historical footage turned out to be in perfect shape — the son of an American World War II veteran had contacted the Shoah Foundation about some footage which had sat untouched, for decades, in his father's home. The never-before-seen clips turned out to be rare 16mm color images of skeletal Holocaust victims photographed after the liberation of Dachau.

With such haunting illustrations at his disposal, Moll did not want style to overshadow content, so he opted for realism. Done therefore avoided heavy lens filtration, sizzling hot backlights and zoom moves during interviews. Instead, he employed five different images sizes — pre-marked on the Panavision 10:1 (25-250mm) T4 and 5:1 (20-100mm) T3.1 zoom lenses — to correspond to five distinct interview topics. Because the documentary relates the survivors' tales in chronological order, the images become tighter as the drama intensifies.

During the 4- to 6-hour interviews conducted with survivors in their Stateside homes (conducted in July of 1997), Done utilized two Panavision GII cameras with 1,000' magazines to allow for 20 minutes of continuous shooting. Lighting these oral histories was always an exercise in naturalism. While in Houston, Texas, shooting a conversation with Alice Lok Cahana, for example, the cinematographer used "a 575-watt HMI Par with a Chimera to create a big, soft key light, further controlling the look with two 'floppies' — rolls of black Duvateen hanging off of C-stand arms." He then backlit his subject with an 300-watt HMI Joker aimed through a mini-Chimera, and made subtle use of Tiffen Black ProMist filters — no more than ¼ to ½ in strength — to give the elderly survivor a softer, more flattering look.

In August, the filmmakers embarked upon the grueling, 10-day European shoot. Done brought along a GII, an Aaton 35-III, a set of Primo primes, a Canon 150mm-600mm T6.3 zoom, and a small lighting package consisting of a 575-watt HMI Fresnel, a 300-watt HMI Joker and a lightweight Lowell tungsten kit. All of the equipment had to make the transition to 220v to function with European currents. He also brought along a variety of Eastman Kodak stocks: 100 ASA EXR 5248, 200 ASA EXR 5293 and 500 ASA EXR 5298.

While shooting handheld in locations such as the vast Auschwitz camp, Done shouldered the GII instead of the more lightweight Aaton, since the latter camera's 400' magazines allow for

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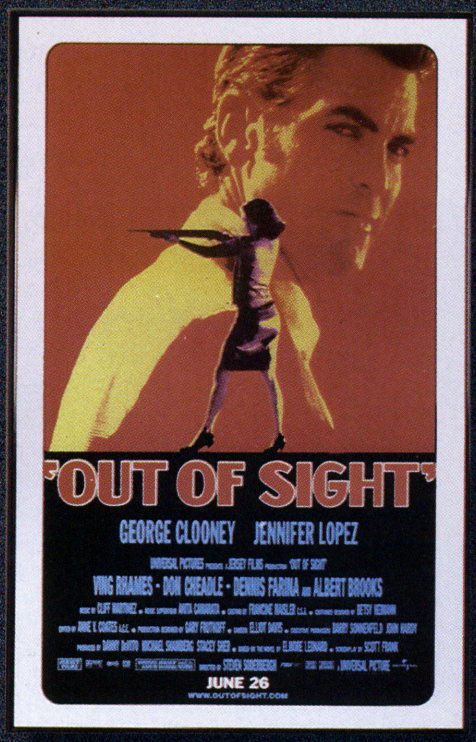
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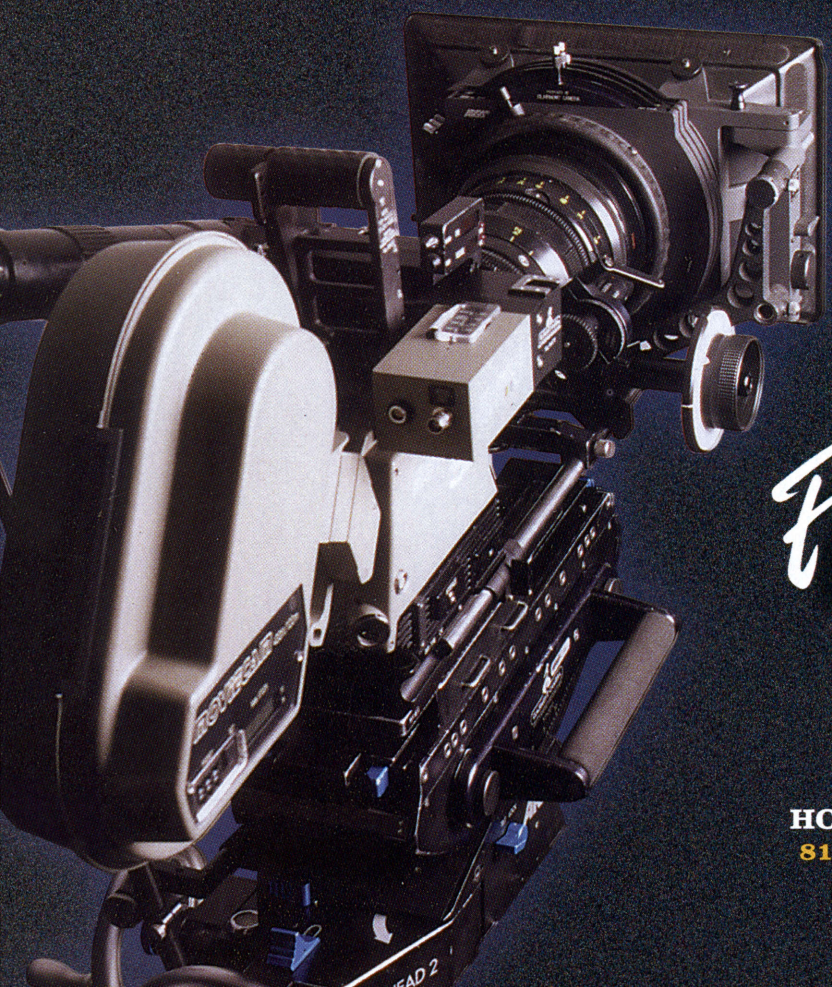
"OUT OF SIGHT" - *BEST PICTURE*

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Director Steven Soderbergh checks out the shot during filming of Universal's "Out of Sight." The Director of Photography on the film was Elliot Davis.





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only four minutes of uninterrupted filming. When shooting handheld, Done preferred the 21mm Primo prime, which permitted him to play shots a little wider for the big screen. "The 21mm is a very flat lens, which meant that I could get very close to a subject without distortion," Done adds. "I love shooting close-ups of people with a wide lens, because it allows you to feel the space they're in."

In a small town outside of Munich, Germany, Firestone visited a former Nazi doctor who is believed to have performed medical experiments on her sister at Auschwitz. "The tension was thick in the room," says Done, who only had the use of one GII for that sequence. "Rather than panning back and forth between Renee and the doctor, James and I decided on a two-shot to capture the body language, and to let the tension play between the two."

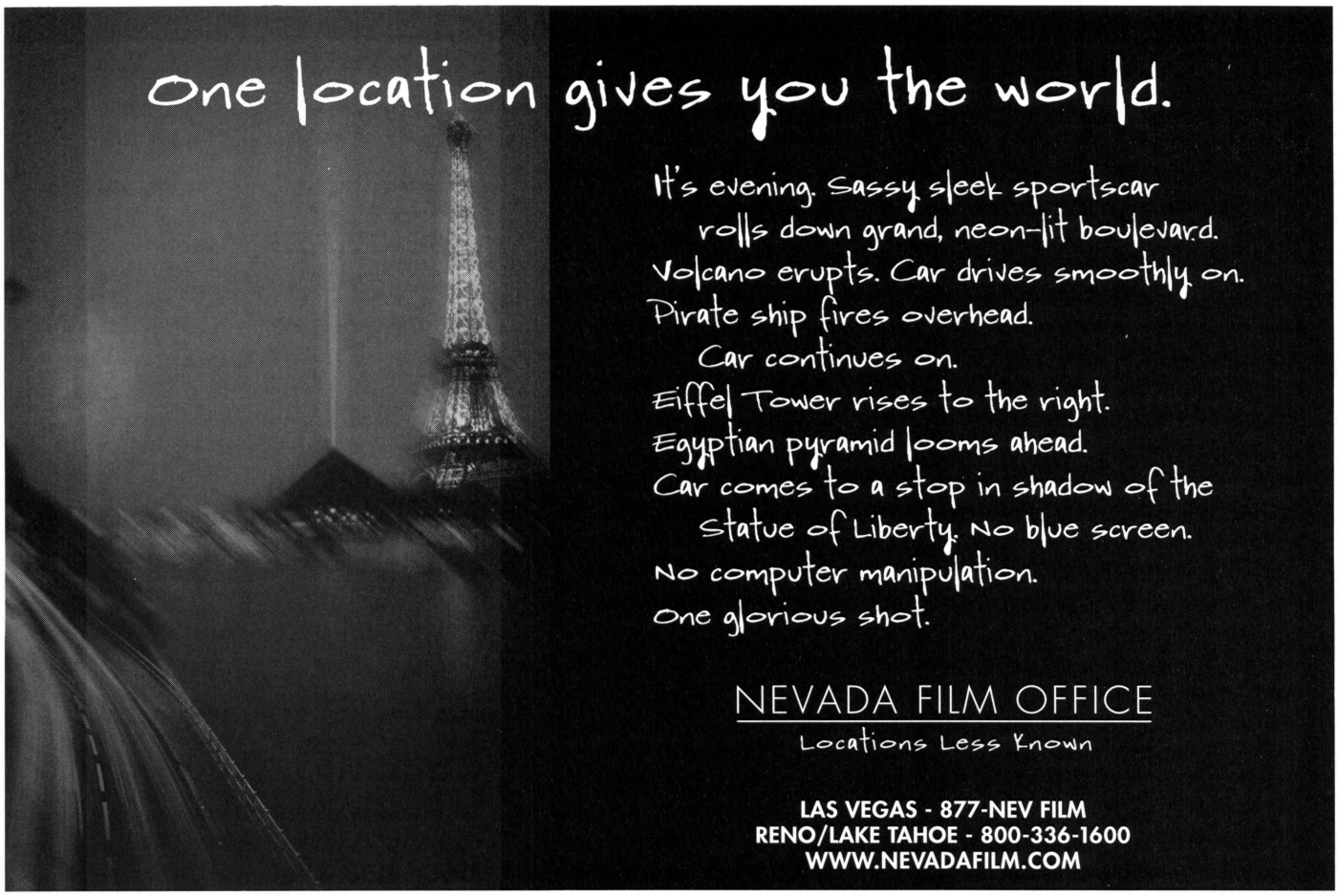
When funding ran low for shipping expenses, the crew sometimes stashed equipment in their personal luggage while traveling through Poland, Hungary, Germany and the Ukraine. Fortunately, Panavision, Technicolor and Pacific Title donated almost all of the equipment and covered lab expenses.

Though the extensive traveling left the crew weary, the shocking subject matter they encountered exerted an even greater toll upon them. "Most of the crew members had never before heard a survivor give testimony, and they were often moved to tears," recollects Done. "I remember once looking at my assistant while we were reloading, and he was just shaken. One of the most devastating interviews, for me, was the one with the former *Sonderkommando*, who told us about finding two of his old friends in line for the gas chamber. All he could do was give them some bread and tell them where to stand in the chamber so they would die quickly. When you hear these terrible stories, you try to put up an emotional barrier so you can function, but it doesn't always work."

Needless to say, the crew members weren't the only ones left with emotional scars. While shooting at Auschwitz, Alice Lok Cahana instinctively shouted at Moll to stay away from the barbed wire fence, which during the war had been electrified to deter would-be escapees. Despite suffering exhaustion after countless 19-hour days, the crew remained reserved and respectful. As Done notes succinctly, "There is no complaining at Auschwitz."

The filmmakers faced a different set of challenges when they traveled to the hometowns of Renee Firestone and Irene Zisblatt, which are located in what is now the Ukraine. "We were advised to keep our American crew and Panavision equipment behind, because robbery, kidnapping and other Mafia activities are rampant in that part of the former Soviet Union," says Moll. "We were told to hire a Russian crew and to avoid wearing blue jeans or speaking English in public."

Eight stone-faced, armed security



guards, clad in dark suits, followed the American filmmakers everywhere, even to the bathroom. Each night, the men stood guard in the hallway outside of their hotel rooms. Though a squad of men in black might seem an overcautious measure for a documentary crew, their presence did not prove unwarranted. One morning, the crew woke to the news that some Mafia types had raided the hotel that night in search of the Americans. In another instance, a group of menacing thugs surrounded the crew just as the director had lined up a shot at a street fair. "Our Russian coordinator came up to us and whispered, 'Grab the camera and get in the car.'" The filmmakers did so, but not before quickly nailing the shot.

As if all these distractions weren't enough, Done had problems of his own. With his hand-picked equipment unavailable for security reasons, the cinematographer had to make do with a poorly maintained Arriflex BL and a set of Zeiss lenses rented from an equipment house in Moscow. His Russian crew, meanwhile, spoke barely a word of English. "I learned that in Russia, crew members' various jobs are different than in the United States," says Done. "When I turned to the first assistant and said, 'Let's reload,' he looked at me blankly and said, 'I don't reload!' In the Russian system, the first assistant only pulls focus and takes light-meter readings. The technician who *does* reload was off loading other magazines, so I just did it myself."

Regarding the rented Russian equipment, Moll recounts, "The camera was this old hunk of metal that was so loud I couldn't believe it. You can actually hear it in one scene where Irene is talking about going back to her hometown. I cringe every time I see that sequence. Also, the head on the tripod was the furthest thing from smooth that you could ever imagine. We took it back to the Russian equipment house, but they gave it back to us and said, 'We tested it, and it's perfect!' Of course, the head on the tripod was still jerking. I had to edit around the jerky pans. In the end, I was relieved to find that we actually had an image when the film came back from the lab!"

The closing shot of *The Last Days* is the documentary's most lovely and haunting image. Using a 27mm Primo prime, Done captured a close-up of three "yarzeit" memorial candles that Firestone had placed on the ruins of a crumbling Auschwitz crematorium. As the sunlight wanes, moths flutter about the flickering candles. "It was the end of the day; the film rolled out, and we didn't have any more left," relates Done. Since the image ran for only eight seconds, Moll doubled its length by double printing each frame in the lab, and adding a long fade-out. This ethereal portrait will always have a deep meaning for Done. "After we had been on the journey with Renee and the other survivors, we really knew what those candles represented."



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The 1999 Independent Spirit Award Nominees

The Independent Feature Project/West recently announced its nominations for the 14th annual Independent Spirit Awards during a reception held at the El Rey Theater in Los Angeles. Culled from a record 159 submissions, the nominations were handed out by host Alfre Woodard, along with presenters Gina Gershon, Jeff Goldblum, Vondie Curtis Hall and Jennifer Tilly. This year's awards will be presented on Saturday, March 20 during a ceremony held under a beach tent in Santa Monica. The ceremony will be broadcast live on the Independent Film Channel, and reshown later that evening on the Bravo Channel.

Noted IFP/West executive director Dawn Hudson, "It's exciting to see new voices honored along with more established independent filmmakers such as Paul Schrader, Todd Haynes, Ismail Merchant and David Mamet, who have been honored at past Spirit Awards ceremonies as well. All of these filmmakers have given their heart and soul to offer the public something beyond the facile and predictable. We congratulate and thank them."

The entire national IFP membership (a nationwide base of 8,500 members) is eligible to cast ballots to determine the winners. In order to be eligible, a film must have been exhibited at a commercial theater during the 1998 calendar year, or have played at one of the following six film festivals: New York, Seattle, Sundance, Telluride, Toronto or New Directors/New Films. The 11-person nominating committee applied the following criteria as guidelines: original, provocative subject matter; uniqueness of vision; economy of means (with particular attention paid to total budget and individual compensation); and percentage of independent financing

Producer Laurie Parker chaired this year's nominating committee, whose members included writer/director Allison Anders; writer Takashi Bufford;

The 1999 Independent Spirit Award Nominees

Best Cinematographer

Maryse Alberti, *Velvet Goldmine* (see *AC* Nov. '98)
Matthew Libatique, *Pi* (*AC* April '98)
Tami Reiker, *High Art* (*AC* July '98)
Paul Sarossy, CSC, *Affliction* (*AC* Nov. '98)
Malik Sayeed, *Belly*

Best Director

Wes Anderson, *Rushmore*
Todd Haynes, *Velvet Goldmine*
Lodge Kerrigan, *Claire Dolan*
Paul Schrader, *Affliction*
Todd Solondz, *Happiness*

Best Feature (given to producer)

Affliction (Linda Reisman)
Claire Dolan (Ann Ruark)
Gods and Monsters (Paul Colichman, Gregg Fienberg, Mark R. Harris)
Velvet Goldmine (Christine Vachon)
A Soldier's Daughter Never Cries (Ismail Merchant)

Best First Feature

(given to director and producer)

Buffalo '66 (director Vincent Gallo, producer Chris Hanley)
High Art (director Lisa Cholodenko, producers Dolly Hall, Jeff Levy-Hinte and Susan A. Stover)
The Opposite of Sex (director Don Roos, producers David Kirkpatrick and Michael Besman)
Pi (director Darren Aronofsky, producer Eric Watson)
Slums of Beverly Hills (director Tamara Jenkins, producers Michael Nozik and Stan Wlodkowski)

Best Foreign Film (given to director)

The Celebration (Thomas Vinterberg, Denmark)
The Eel (Shohei Imamura, Japan)
The General (John Boorman, Ireland)
Central Station (Walter Salles, Brazil)
Fireworks (Takeshi Kitano, Japan)

writer/director Guillermo Del Toro; Sundance Film Festival programming director Geoff Gilmore; actor/director Vondie Curtis Hall; journalist Elvis Mitchell (host of KCRW-FM's film program *The Treatment*); actress Elizabeth Peña; cinematographer Walt Lloyd; casting director Mali Finn; and producer Janet Yang.

The nominees also included candidates for the third annual Truer Than Fiction Award (presented to an emerging documentarian); the fifth consecutive Movado Someone to Watch Award (an unrestricted grant given to an up-and-coming fiction filmmaker); and the sophomore Polo Ralph Lauren Producers Award (an unrestricted grant presented to a tenacious and creative indie producer with a vision).

With nearly 5,000 members, IFP/West is one of the largest non-profit membership organizations supporting the development, production and distribution of quality indie films in America. The following are some of this year's key nominations. ➢

Best Screenplay

Bill Condon, *Gods and Monsters*
David Mamet, *The Spanish Prisoner*
Frank Military, *Blind Faith*
Don Roos, *The Opposite of Sex*
Paul Schrader, *Affliction*

Best First Screenplay

Darren Aronofsky, *Pi*
Sherman Alexie, *Smoke Signals*
Lisa Cholodenko, *High Art*
Tamara Jenkins, *Slums of Beverly Hills*
Matthew Weiss, *Niagara, Niagara*

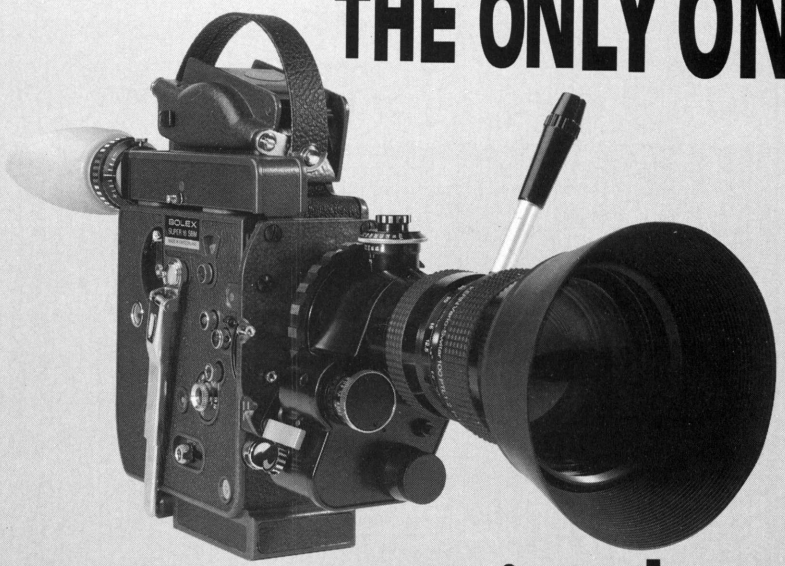
Movado Someone to Watch
(given to director)

Tony Barbieri, *One*
Lynn Herschman Leeson, *Conceiving Ada*
Eric Tretbar, *Snow*
David Williams, *13*

Truer Than Fiction (given to director)

Vicky Funari, *Paulina*
Tim Kirkman, *Dear Jesse*
Julia Loktev, *Moment of Impact*
Barbara Sonneborn, *Regret to Inform*
Kyra Thompson, *Dying to Tell the Story*

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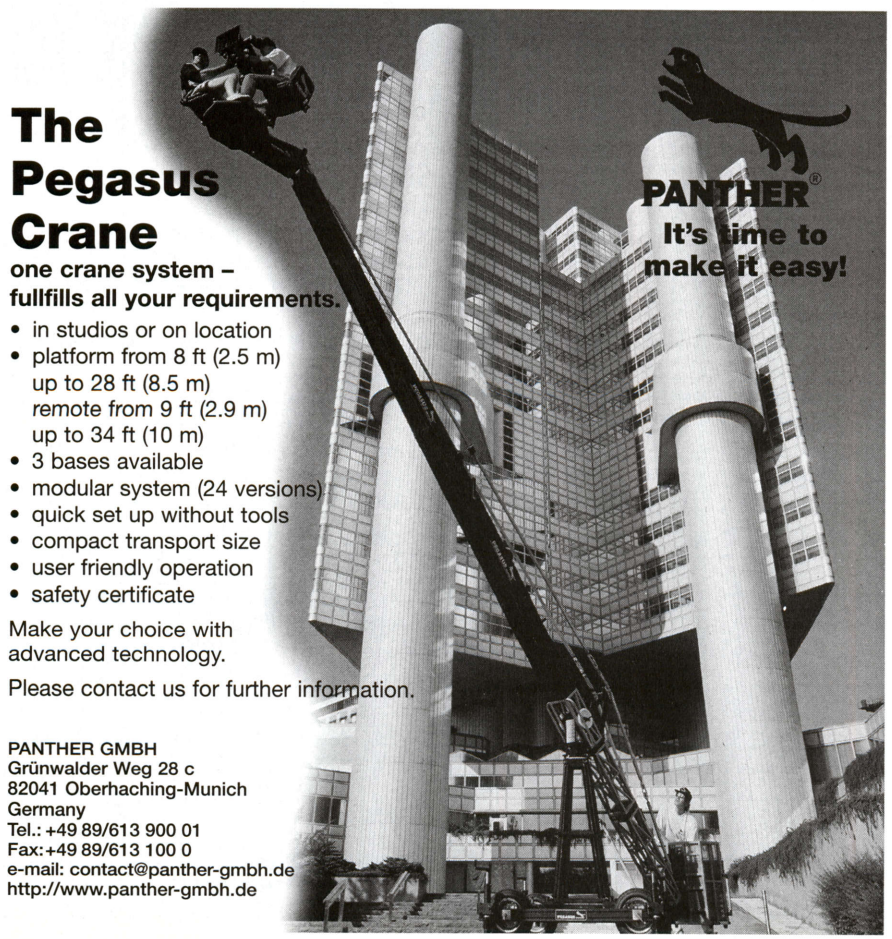
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The competition itself is guided by a multinational board of industry leaders. New appointments to this year's board include Pat Cannon, manager of public relations and production division of Lions International, Oak Brook, Illinois; Anders Envall, producer/creative director, Dockhouse Film and Television AB, Gothburg, Sweden; Joy Kopp, manager of the public relations and production division of the Jack Morton Company, Minneapolis, Minnesota; and Pim Korver, cameraman/director of Pim Korver Film and Video, Krimpen aan den Ijssel, the Netherlands.

Judging for the competition takes place in multiple cities throughout the U.S., with an executive committee in Chicago reviewing all first-place "Gold Camera" and second-place "Silver Screen" awards. The honors will be presented at the Chicago Marriott Downtown Hotel on June 3 and 4, 1999. Entry kits and additional information may be downloaded from the festival's website, or obtained by contacting the IFVS competition's suburban Chicago headquarters.

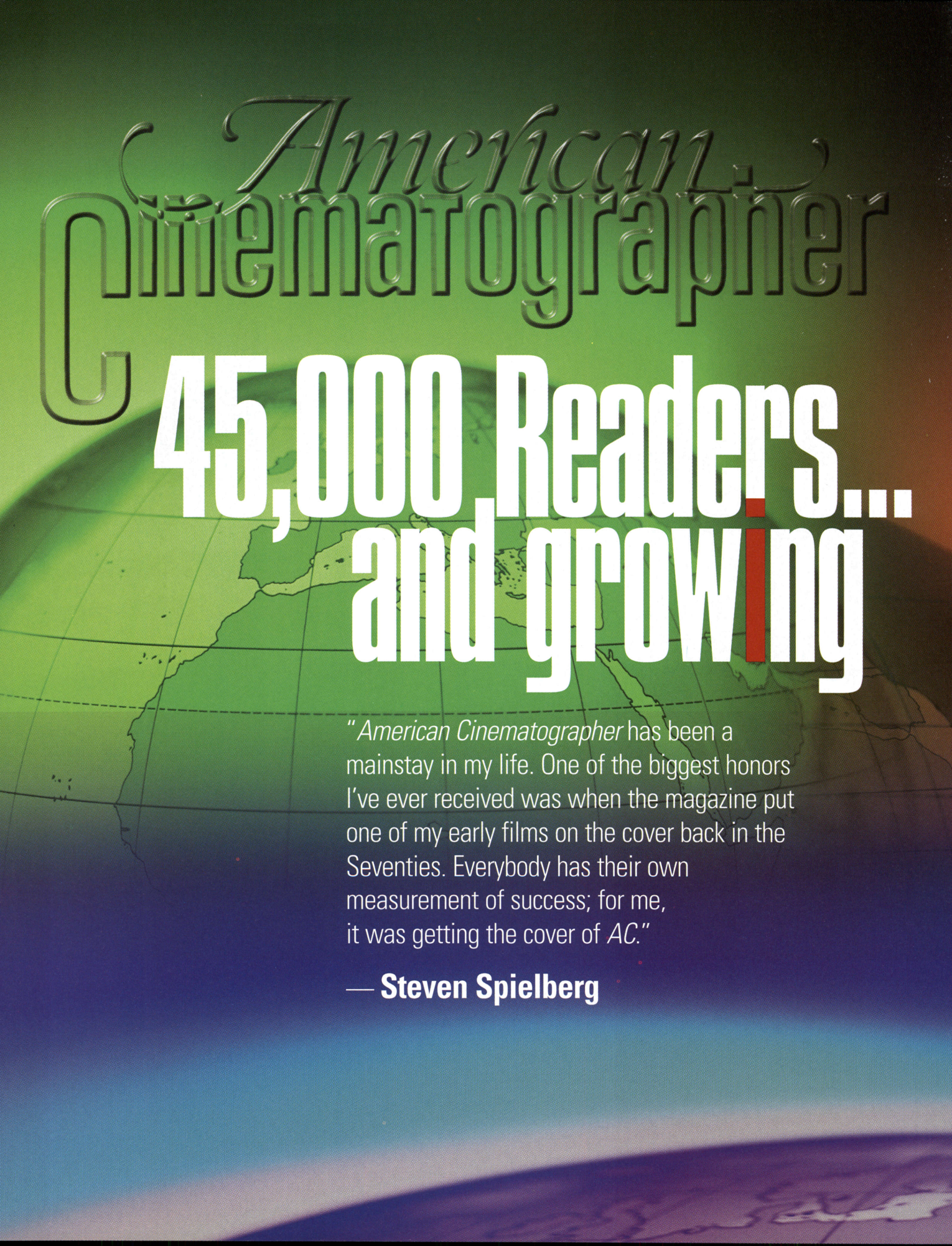
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— Steven Spielberg

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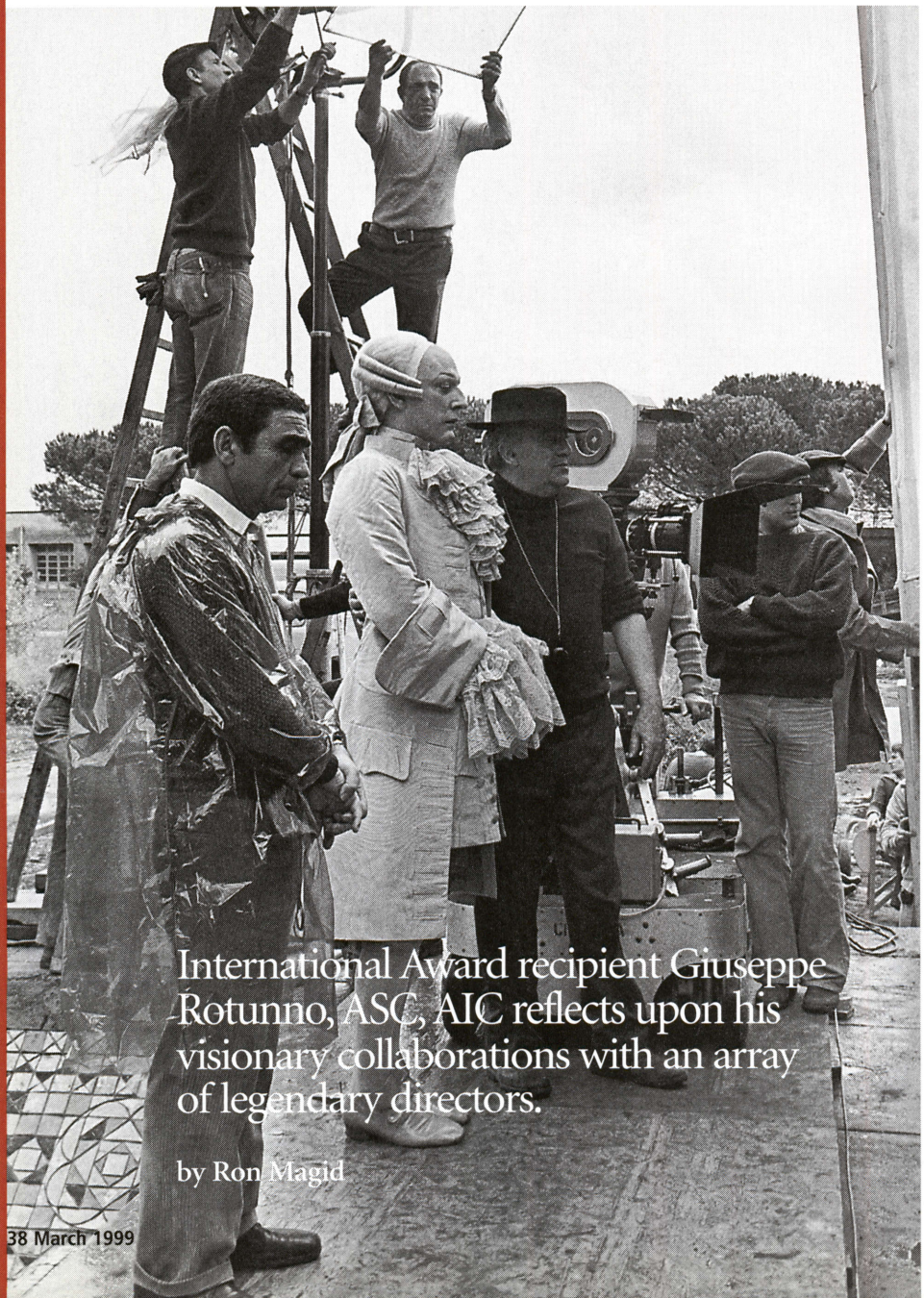
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Renaissance Man



International Award recipient Giuseppe Rotunno, ASC, AIC reflects upon his visionary collaborations with an array of legendary directors.

by Ron Magid

The scene could best be described as Fellini-esque — except that the guest of honor wasn't the great Italian director, but his brilliant collaborator, cinematographer Giuseppe Rotunno, ASC, AIC. The location was New York's famed Tavern on the Green, and the occasion's host was renowned director/choregrapher Bob Fosse, whose modern musical classic *All That Jazz* was about to out-Fellini Fellini — with a little help from Rotunno. "It was a big party for me," the cinematographer recalls. "Bob sat me down in the middle of the restaurant, and then he improvised a number with his dance troupe; everybody was dancing around me, improvising with my name. I was really moved, and then Bob whispered in my ear, 'Peppino, have I embarrassed you enough?' I answered, 'Yes, please stop. Because I cry.' He was like that. *Fantastico*."

A man less modest than Rotunno might have come to expect such kudos, especially after spending nearly 60 years behind the camera, capturing beautiful and mind-boggling imagery dreamed up by the world's greatest directors. Although Rotunno has collaborated with many top American filmmakers, including Orson Welles, John Huston, Stanley Kramer, Robert Altman and Mike Nichols, he will be best-remembered for his multiple collaborations with the brightest lights of the Italian



cinema: Vittorio De Sica, Luchino Visconti and Federico Fellini. "You know, I am just *one* of the people who has worked with those great directors," says Rotunno, who was honored for his artistic contributions to cinema history with the American Society of Cinematographers' International Award during the ASC Outstanding Achievement Awards gala, held on Ferbruary 21 at the Century Plaza Hotel in Century City. "At the moment, I am the star, and I'm very proud to be talking about working with them. De Sica, Visconti and Fellini always put very different and unique moods into their films; they were also different in terms of [their approach to] the acting, the makeup, and everything else. I simply tried to follow all of those things with my light, and put them in the best condition to be received by the audience. It's very difficult to explain my work, but it's like being a painter. I think painters feel something inside through the paints and the brush as they put their ideas on a canvas. That is also what I do."



Although Rotunno has received many honors during the course of his career, including a 1980 Academy Award nomination for *All That Jazz*, he says that he was particularly proud to accept the ASC's International Award. "This honor means a great deal to me, because it comes from my colleagues, whom I hold in very high regard," he says.

Rotunno started out from very humble beginnings. As a boy, he never entertained ideas of going into the film business; it was the death of his father, when Giuseppe was just 17, that prompted him to seek work anywhere he could find it during the difficult pre-war days of 1940. Thankfully for audiences everywhere, the gods steered the young Roman to the doors of Cinecitta Studios, where he landed the only available opening: a job helping out in the studio's photography lab, which was run by the three Bragaglia brothers, who were famous for having researched and invented "photodynamism." One of the brothers, Arturo, recognized the young man's talent and gave him a Leica still camera to experiment with on his days off. "On Saturdays and Sundays, I started to make some photographs of my own," Rotunno recalls. "Then on Monday, Arturo gave me permission to bring in my photos. I got deeply into the photo department, accumulating more knowledge. I started to learn about what was happening with the light, the film, and other things, and I began to love it. It soon became part of my life."

Within 18 months, Rotunno graduated from developing pictures in the studio's darkroom to becoming an on-set still photographer at Cinecitta. "Arturo, who was actually the chief of the photography lab, helped me move to the camera department, because he felt it was important for me. I became a camera assistant." The young man soon

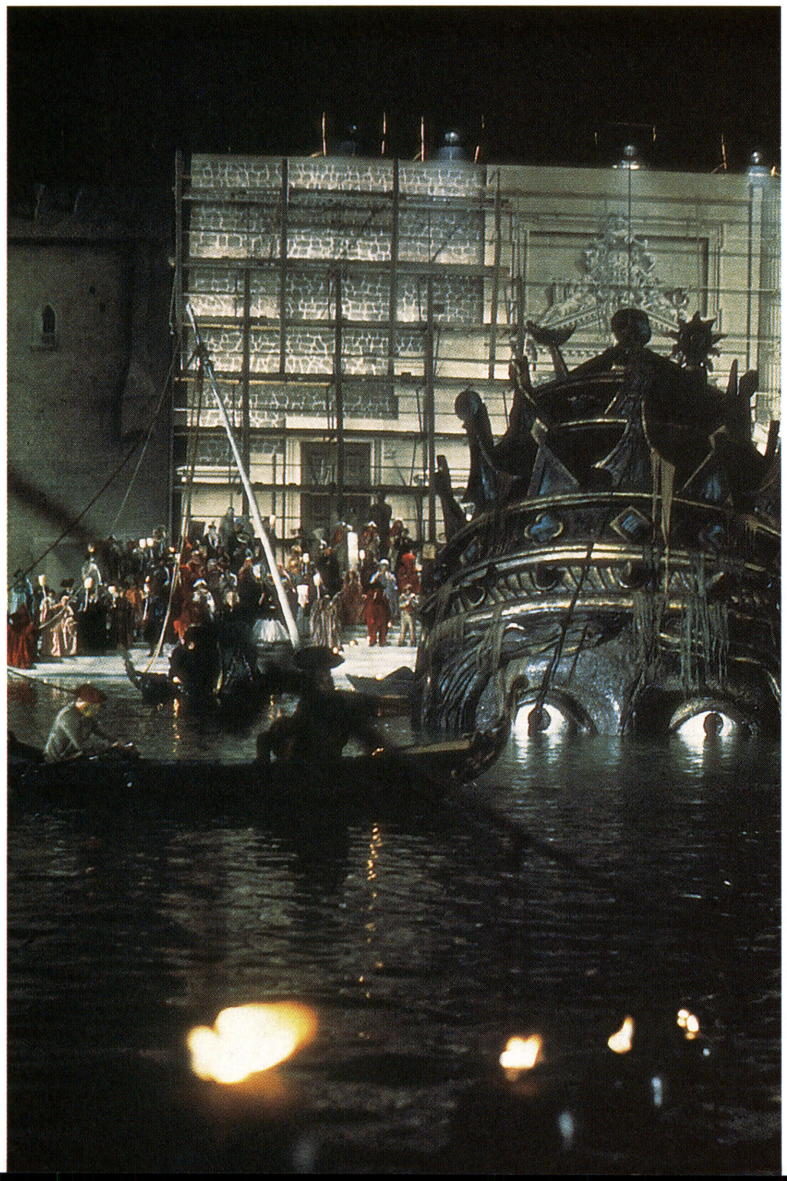
Opposite: On the set of *Casanova*, Rotunno (far left) and Fellini flank actor Donald Sutherland, who stars as the infamously libidinous rake. This page, left: A splashy interlude from the otherwise naturalistic *Roma*. Bottom: An ocean liner heads out to sea in the sumptuously photographed *And the Ship Sails On*.

Renaissance Man

found, however, that working as an assistant at the busy studio was akin to being a glorified manual laborer. "I did all of the work in the camera department," Rotunno remembers. "I just cleaned up the camera, loaded the camera, or put it in a box."

Nevertheless, the experience paid off; by the early 1940s, Rotunno was serving as a camera assistant and operator. Meanwhile, he was also getting his first experience as a director of photography by working on documentaries, which were all the rage in Italy at the time. Before breaking into dramatic features, future directorial giants such as Visconti and Michelangelo Antonioni were making 10-minute short subjects for theaters. Rotunno shot some 10 documentaries for Michele Gandin, the director he considered the best in the field. While most everything he shot was black-and-white, Rotunno's first color film with Gandin anticipated his later stylized work with Italy's cinematic masters: "We shot in a village in southern Italy, where the old houses were painted bright white and all of the women dressed in black. So it really *was* a black-and-white film — but in color!"

Rotunno earned one of his first big breaks while working as an operator on Roberto Rossellini's World War I drama *The Man With the Cross*. "It was 1942, and the first time I really put my eye to the camera's viewfinder," he remembers. "I was operating one of three or four cameras while we were shooting a night battle scene, from inside a Russian house that had a big hole in the wall made by a cannon shell. Even though our set was an 'interior,' it was actually built outside. Because the battle covered such a large area, we could not shoot it 'night-for-night,' so we were shooting 'day-for-night.' Unfortunately, it was a sunny day, and the contrast between the interior and the exterior was impossible. I had to make it even, so I sandwiched a red and green gel between two big pieces of glass, creating a 'filter' that we placed over the hole. After that, Rossellini started to talk to me, and began giving me a little more importance at work."



At Cinecitta Studios in Rome, a famous prop from *Casanova* peers up out of a water tank.

Before he could make any more headway in his homeland's film industry, Rotunno was drafted into the military during the darkest days of World War II, serving as a combat photographer in the Italian army's film unit. Suddenly, the battles he was shooting were all too real. "I was in the service, shooting alongside reporters, from 1942 until April 11, 1945," Rotunno says. "That's when I was liberated by the American Army in Germany, where I was a prisoner. I never left my work, from the beginning of my career until now."

Landing a job in Italy was much harder after the war, however. Although Rotunno returned to Rome in September of 1945, it wasn't until 1948 that he was able to pick up where he had left off. "I started again as a camera assistant, made a little salary, and occasionally worked as a camera operator — *very* occasionally," he notes wryly.

One of Rotunno's first jobs after the war was a stint on Henry King's epic *Prince of Foxes* (1949), starring Tyrone Power and Orson Welles. The film was photographed by the great Leon Shamroy, ASC, who recognized the star quality in the young camera assistant he had hired. "I got on very well with Leon,

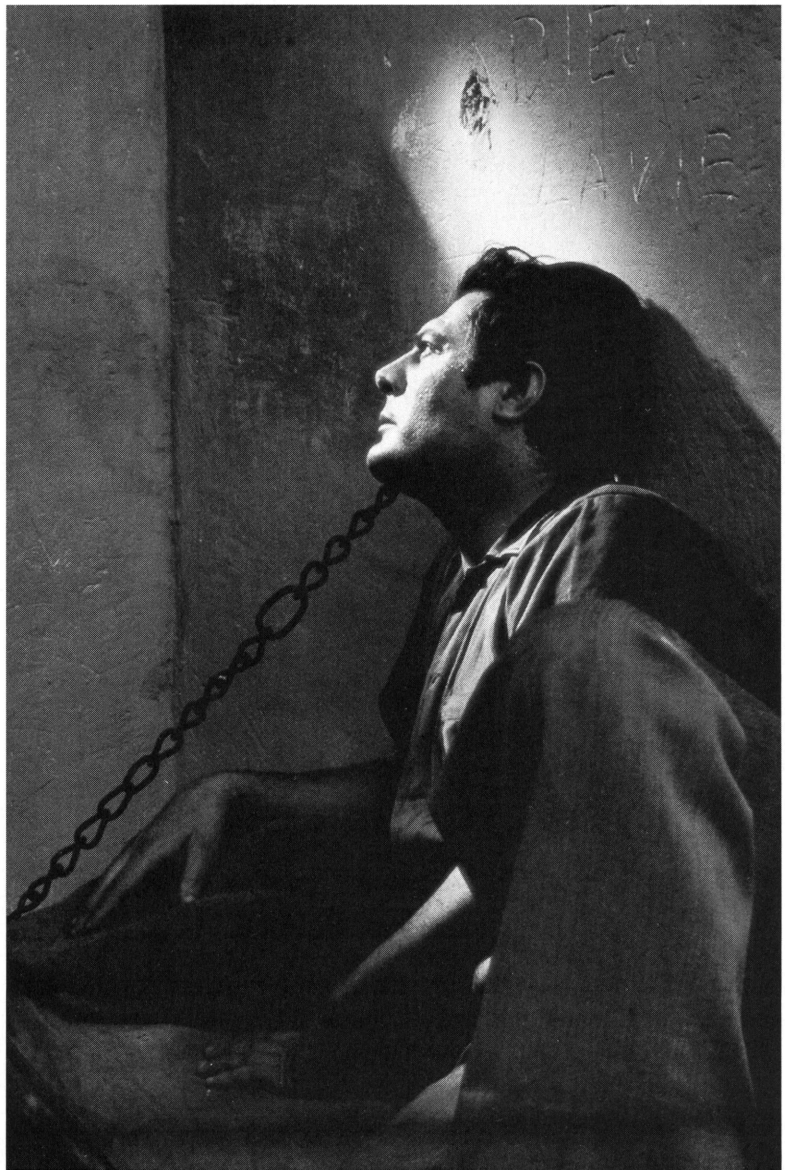
the man who put me on the camera again," Rotunno reflects. "The shoot was very long, and we worked very closely together. It was my first chance to work on a big production, and it was a spectacular film. I had never seen something so complicated for a cameraman: battles, exteriors, night stuff, many things. Shamroy was really admired by all of the artists there; he could light so beautifully. He was also a great man with a big heart, and he gave me the opportunity to stay close to him and watch everything he was doing. That set, for me, was really a university; I relied on my eyes and my ears to pay attention to what was happening around me."

Rotunno was soon back on track, working as a camera operator. During this time, Rotunno amassed more technical knowledge while working on at least 25 films. He recalls, "They often used more than one camera — in fact, they used three cameras sometimes. They would put me by a camera and say, 'Stay there!'" One of these pictures was the sword-and-sandal epic *Attila the Hun* (1954), co-starring Anthony Quinn and Sophia Loren, and photographed by the famed Aldo Tonti. The other two operators on this picture were future ASC fellows Karl Struss and Luciano Trasatti, both of whom also became famed cinematographers in later years.

Sadly, it was a tragedy that propelled Rotunno to prominence as a director of photography. He was operating for revered cinematographer Aldo Graziati on Visconti's *Senso*, and in November of 1953, near the end of production, the company moved from Verona to Venice. Meanwhile, Rotunno went to Rome to discuss *L'Oro di Napoli*, Graziati's upcoming collaboration with De Sica. There, he received word that Graziati had been killed in a car accident. Devastated, Rotunno returned to *Senso*, and production resumed for a time with British cinematographer Robert Krasker, BSC. When Visconti and the Englishman failed to click, the director asked Rotunno to take over as director of photography.

Because of Graziati's death and other factors, De Sica's *L'Oro di Napoli* remained an unrealized project for Rotunno, but in 1955, the director remembered Graziati's talented camera operator when he was preparing to shoot *Pane, Amore e...* (*A Scandal in Sorrento*), which would star Sophia Loren and De Sica himself. While Dino Risi is the film's credited director, Rotunno recalls that De Sica controlled the production. The 30-year-old Rotunno's first major film as a cinematographer was especially demanding because it was shot almost entirely on location. The project was also one of the first CinemaScope productions in Italy.

To prepare, Rotunno traveled to London to observe production of the Anatole Litvak CinemaScope romance *The Deep Blue Sea*, which was photographed by Jack Hildyard, BSC. The experience helped Rotunno immeasurably when shooting commenced on *Scandal in Sorrento*, although the challenges were considerably different on De Sica's seaside, location-based romantic comedy. "Because we were shooting in CinemaScope, and due to the quality of the film stocks at the time, it was very difficult to balance our interiors against the bright light of the ocean exterior," Rotunno remembers. "After all, we're talking



Marcello Mastroianni contemplates his fate in the 1967 picture *Lo Straniero* (*The Stranger*), a striking adaptation of the existential novel by Albert Camus.

Renaissance Man



Right: Burnt-out choreographer Joe Gideon (Roy Scheider) undergoes a rather lavish heart procedure in *All That Jazz,* which earned Oscar nominations for both Rotunno and director Bob Fosse, upon whom the Gideon character was based. Below: A photographer frames an eccentric cast of characters in *Amarcord.*

about 43 years ago."

But Rotunno's years of experience working with De Sica (he had also served as camera operator on *Umberto D* and *Terminal Station*) made his transition to director of photography a smooth one, and his success with the difficult CinemaScope production attracted the attention of one of the world's greatest directors. "I prepared a film with Orson Welles as director, but it never started," Rotunno laments. "We had many meetings for a film called *Operation Cinderella,* and we also looked for actors and locations. We had even found some adequate solutions for the photography. But at a certain point, Orson quit and the picture was never made. Nevertheless, I had enough time to get to know him, talk to him, and 'steal' some ideas from him. He told me he always liked to place the camera at a low angle; because he had also directed in the theater, where the stage is higher than the floor, his point of view was always from the floor looking up at the actors. It was really a shame for me that our lost production was never 'found' again."



During that same year, 1955, Rotunno shot *The Monte Carlo Story,* which again starred De Sica, this time alongside the great Marlene Dietrich. The picture was the first directorial effort by the fine screenwriter Samuel Taylor, but once again, De Sica controlled the reins. Although Rotunno shot the film in yet another unfamiliar widescreen format, Technirama, his greatest challenge was the temperamental Dietrich herself, who was then in her late fifties and fearful that the camera would show her age. Dietrich had been absent from the screen for some time, and the lighting technology had changed, which made her nervous. Rotunno recalls, "When she could not feel the warmth of the light on her face, she believed that she wasn't getting enough light. To gain her confidence, I did some tests alone with her before we started shooting. I tried for a simple crosslight on her face, because she needed it then. When I showed her the tests, she was very happy, and she made big publicity for me; she said, 'He is a genius!' Then everybody looked for the genius. Fortunately, my wife says I was very thin at the time, and not bad-looking!"

Rotunno quickly developed a reputation as a master photographer of the world's most beautiful women with films such as *The Naked Maja* (1959) and *Five Branded Women* (1960). "I worked with Ava Gardner, Sophia Loren, Gina Lollabrigida, and many others," Rotunno says. "I was very, very lucky. It's really a pleasure to light those kinds of faces. To start off, I always set up three lights so I could 'understand' their faces. The lady would be in front of the camera, and I would place one light behind the camera, another light exactly across my right and one on my left. Then I would see how the actresses' movements changed the light, and adjust my lights for them. I always use my eyes and my aesthetic taste to judge what is good or not good."

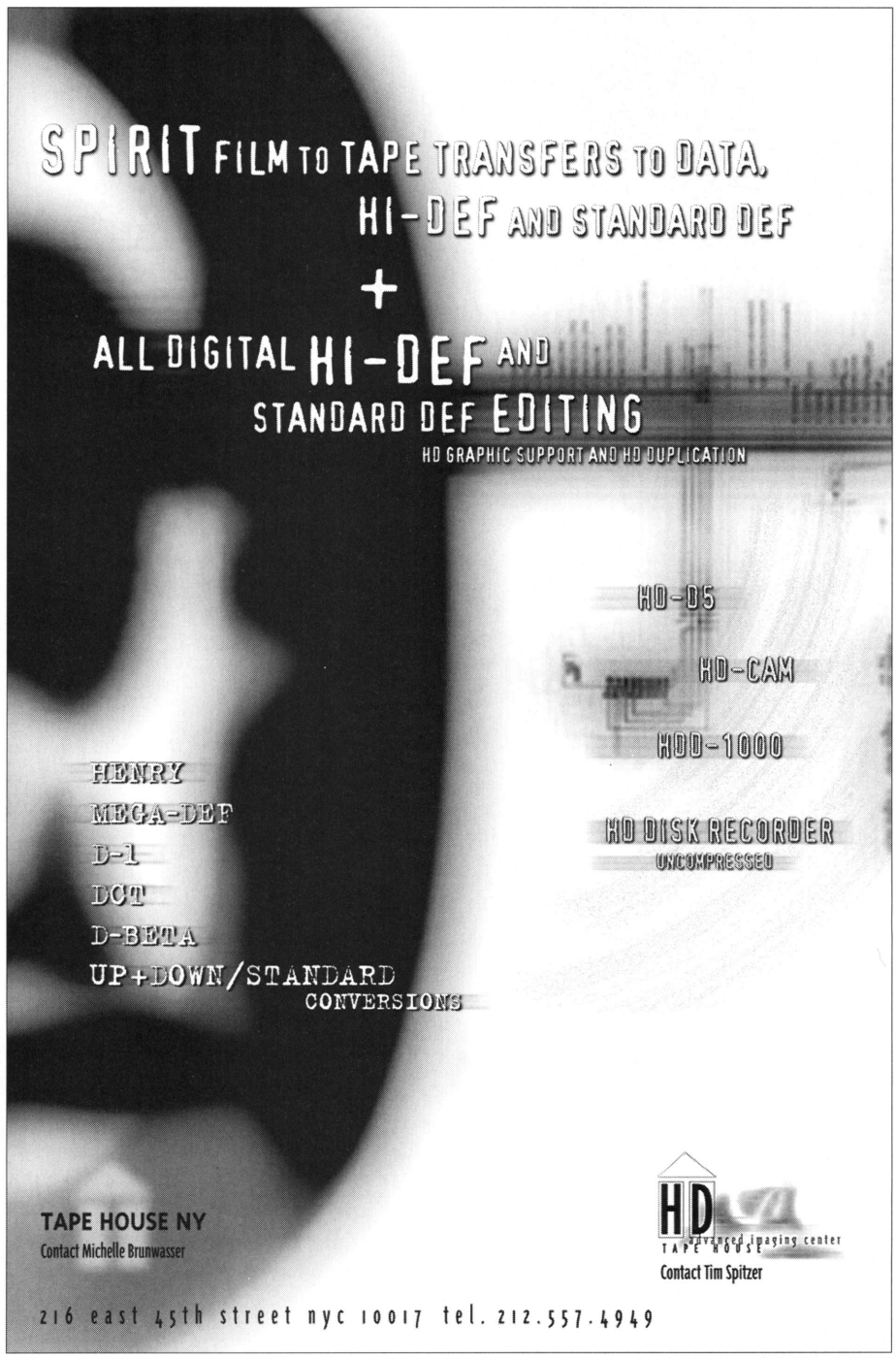
In 1963, Rotunno teamed with De Sica once again on the classic *Yesterday, Today and Tomorrow,* which went on to win the Oscar for Best Foreign Film. The film starred Loren and Marcello Mastroianni in three separate tales, each of which depicted women using their sexuality to get what they wanted. Perhaps the most difficult sequence was one that took place almost entirely inside a Rolls Royce driving through Milan. Rather than shoot in the studio using process photography, Rotunno devised a clever method of filming the entire episode on location. "We built a fake Rolls Royce body and put it on this long, low truck with a platform used to transport boxcars to the train," he explains. "In front there was the camera car with a crane and lights all over it, plus a fog machine. We shot the scene in real time, and you could see the location outside the windows as the car passed through the city."

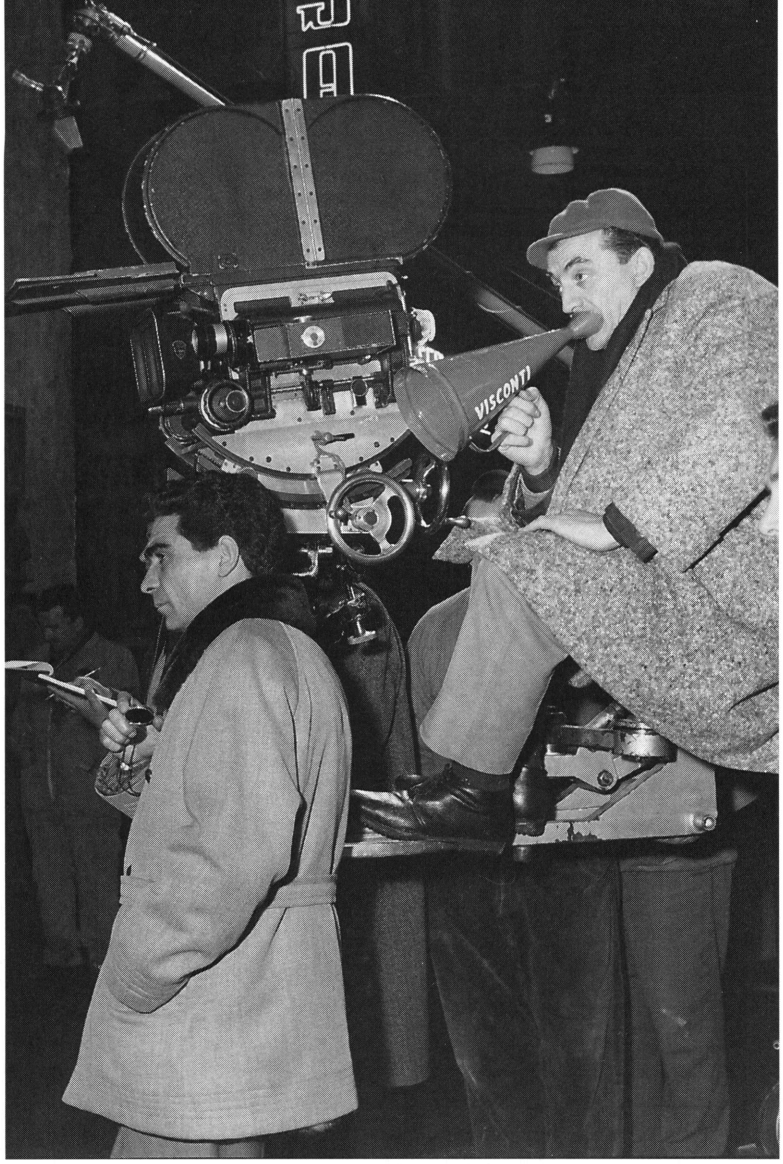
Following *Yesterday, Today and Tomorrow,* Rotunno photographed his most epic production to date: John Huston's *The Bible* (1964), which was filmed in the Dimension 150 65mm format. He then worked on the anthology film *The Witches* (1966), shooting all of its three segments for directors Visconti, De Sica and Pier Paolo Pasolini. Working for such a trio of perfectionist taskmasters — on one film — was quite an experience. "I can tell you that all three directors tried to be as honest as possible with audiences," Rotunno says. "However, they had different backgrounds, sensibilities, tastes and points of view, so those films were really different."

Rotunno's final film with De Sica was *The Sunflower* (1969), but the two men remained friends until the latter's death in 1974. "I still have a relationship with his daughter," Rotunno says. "I knew Vittorio very well, and we worked with complete freedom. It was fantastic."

Both before and after his lengthy collaboration with De Sica, Rotunno had also forged a strong artistic bond with Luchino Visconti. "In certain ways, Visconti was my father in my job," Rotunno says. "I did many films with him from 1951 on, first as a camera operator, and later as a director of photography. I had that relationship for work, for life, forever."

Rotunno's first solo effort for Visconti was *White Nights* (1957), an elaborately plotted love story based on Dostoyevsky's novel. His black-and-white photography enhanced both the reality and artificiality of the film, which marked Visconti's transition away from neorealism. "We shot everything on stage, where we built a section of the city with the canal, because Visconti wanted the audience to recognize it as real but still





Director Luchino Visconti gives Rotunno an earful on the set.

artificial. It was quite complex — sometimes the city had to look real, and sometimes it had to look fake — but we got it, I think."

American director Stanley Kramer agreed; after viewing *White Nights,* he hired Rotunno to shoot his star-studded end-of-the-world epic *On the Beach* (1959). The following year, Rotunno reteamed with Visconti on the classic *Rocco and His Brothers.* In recognition of the cameraman's artistry on the film, Italy's journalists honored him with the Silver Ribbon, one of the country's most prestigious awards (Rotunno eventually earned a remarkable total of eight, in addition to the many other garlands he received in his homeland).

Rotunno recalls shooting the climactic nighttime street fight between Rocco and his brother, Simone: "I had to cover a big section of the street, but my light was almost 100 meters away from the subject. Sometimes I needed to double the light to reach one of the actors [who was deeper in the frame], and to have enough light for the exposure; of course, the light had to seem as if it was coming from the same point. That involved many difficulties, but we did it."

Visconti started a unique cinematography tradition on *Rocco and His Brothers,* which he observed on every subsequent film he made with Rotunno: each scene was shot using three cameras, not for coverage but for continuity. "Each camera captured its own piece of the story," Rotunno explains. "When the actors filmed a short segment and we changed the shot, re-lit, and started again, we sometimes lost the vibration of the performance. By shooting with more cameras, Visconti could film a big piece of the story all in the same moment. The scene would start before one camera, and then we'd move in another camera; the scene would continue to play until the actors left the second camera and we picked them up with the third camera. For the director it was much better, but it was terribly difficult for me, because there was no room for the lights. Practically everything was in the shot except the corner where we placed the cameras."

Visconti's desire to use three cameras in the cramped laundry location where Rocco worked was particularly challenging, but Rotunno had the opposite problem while shooting the lush palazzo of landowner Prince Salina (Burt Lancaster) in *The Leopard* (1963). The climactic hour-long banquet scene, in which the Prince faces his decreasing power and influence in 19th-century Sicily, is considered one of cinema history's great setpieces, and was shot under strenuous circumstances.

The sequence was filmed with three cameras in widescreen Super Technirama, within a real palazzo illuminated by thousands of candles. "To create the atmosphere, we studied all the painters of the 19th century and earlier," Rotunno notes. "Although it wasn't very realistic, Visconti felt that the quality, density and direction of the candlelight represented the richness of the place. Of course, because we were shooting in Technirama in 1962, the lens was not so fast, and we needed a great deal of light. The candles were basically props; my light was over the chandelier. I made a wooden crown on the chain between the chandelier and the ceiling, and I reproduced the candlelight exactly. I put some light in the foreground for close-ups, but with three cameras, it was almost

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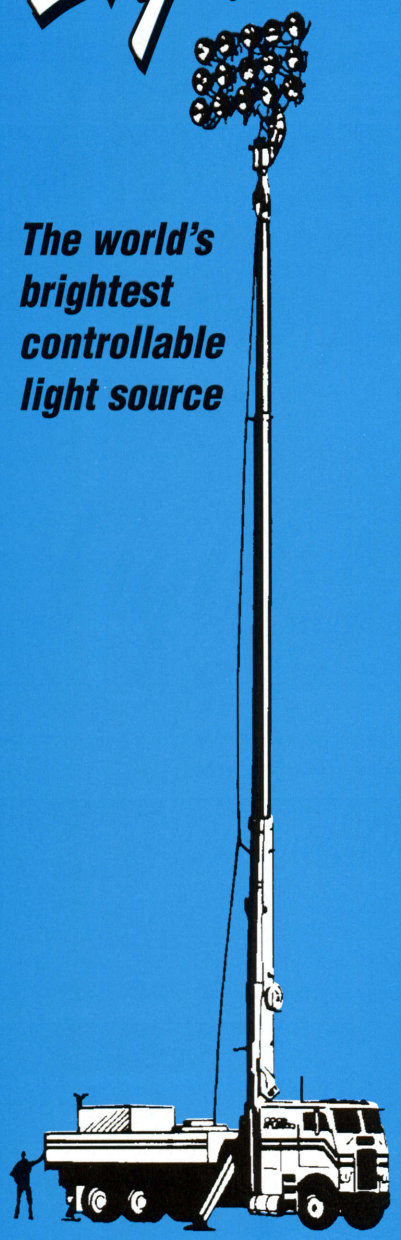
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impossible to light [anywhere but from above] — we had mirrors everywhere, and there was practically no corner of the set that was out of the shot. All of our lights were on dimmers, and we used as little light as possible, because it was really, really warm; it was summertime, and we had all of these people enclosed in various rooms with candles. As we moved from one camera to the next, I got many drops of wax on my neck, and so did Visconti. I had trained the whole crew for days to put out the candles when the scene stopped. There were a thousand candles, so everybody had his section, including me. I felt like a priest in a church!"

Rotunno's final feature with Visconti was *The Stranger* (1967), which immediately preceded the start of his most famous collaboration, with Federico Fellini. As with his previous associations with De Sica and Visconti, Rotunno knew Fellini for a long time before they ever worked together. In fact, Rotunno recalls first meeting with Fellini in 1959 to discuss shooting *8½* — a job he didn't take because he was preparing to follow up his work on Mario Monicelli's *The Great War* with another project, *The Organizer*. By the time Rotunno realized that the project was postponed, Fellini was already shooting *8½*. (Rotunno eventually filmed *The Organizer* in 1963.)

Fellini later approached the cameraman to work on a film about a musician, *The Mastorna Journey*, but then became ill. "I stayed with Fellini for a year, doing all the things you do for a friend who is very sick," says Rotunno. "The film was postponed, but Fellini told me I couldn't leave him."

Fellini and Rotunno finally began their collaboration on the highly regarded *Toby Dammit* segment of *Spirits of the Dead* (1968), an omnibus film based on tales by Edgar Allan Poe. Rotunno's brilliant reddish lighting lent an eerie, dream-like quality to the film's opening sequence, in which the titular character, a dissolute thespian played by Terence Stamp, arrives in Rome at sunset; the lighting effect simulated the character's druggy point of view, with the "sunset" lingering long after the sun had actually set.

The filmmaking duo next teamed on the opulent *Satyricon*, based on the book by Gaius Petronius Arbiter, which only survives in

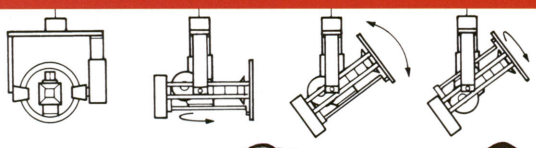
"I like so much to light, and I cannot stop."
— cinematographer Giuseppe Rotunno, ASC, AIC

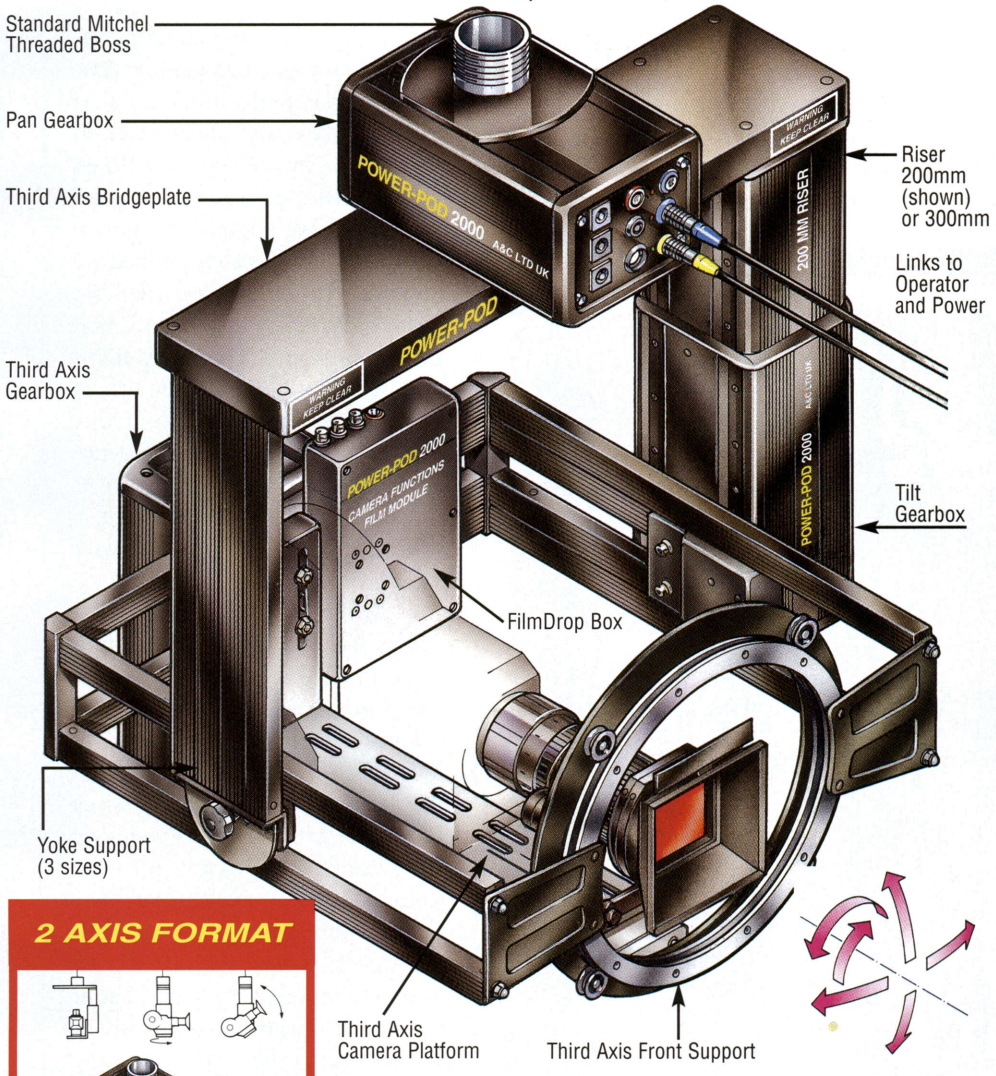
fragments. *Satyricon* effectively captured this fragmentation, and went on to earn a Golden Globe for Best Foreign Film and an Oscar nomination for Fellini's direction. The largely stagebound film was shot over eight months, and Rotunno delighted in capturing Fellini's bizarre tableaus while exercising extreme control over his cinematography. "It was like an astronaut's dream," he muses. "Inside a rocketship, you feel still things, but everything is moving fast around you. *Satyricon* was really a subterranean dream — everything was shot like a memory, and it wasn't intended to be realistic."

The same can be said of Rotunno's brief stint on Fellini's next project, *The Clowns*, for which he filmed only the flashback memory sequences before joining Mike Nichols on *Carnal Knowledge*. He would continue his collaboration with Nichols many years later on both *Regarding Henry* (1991) and *Wolf* (1994).

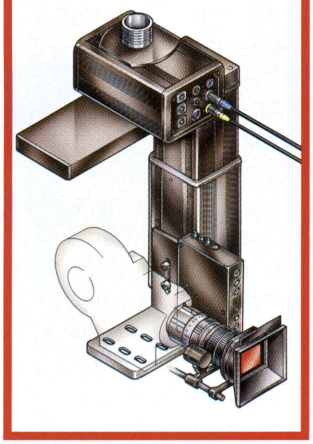
Rotunno and Fellini reteamed on *Roma*, an impressionistic portrait of the Eternal City which netted a Golden Globe nomination for Best Foreign Film. *Roma* broke with the usual baroque look of Fellini's films;

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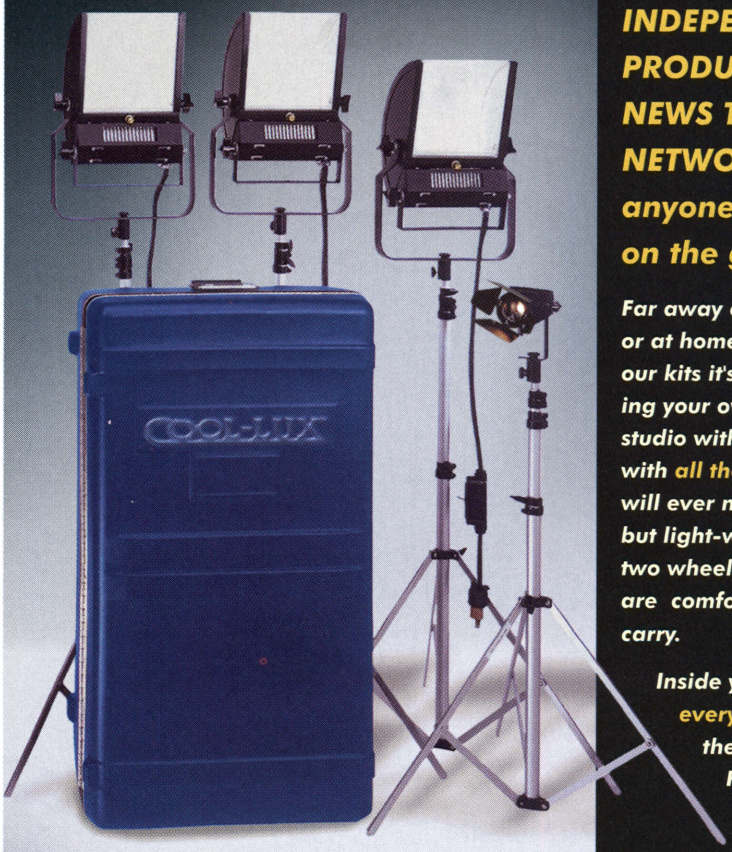
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in terms of visual style, it was more like a throwback to Rotunno's documentary reportage. "It's a memory film, but it is really realistic in the memory," the cinematographer says. "I was born in Rome, and I knew the city well, so it was much easier to reproduce it in a realistic way. When we shot the traffic jam [on the autostrade], we put a big Chapman Crane on a camera car and drove around. The whole crew tried for several days to catch the ambience, but we never got it. The reality in this case worked against the memory, so we had to re-create it in the studio. Later, when we filmed the sequence in which the motorcycle drives around Rome like crazy, we were so noisy that somebody shot at us with a gun!"

Before his next project with Fellini, Rotunno began a three-film association with Lina Wertmuller comprising *Love and Anarchy* (1972), *All Screwed Up* (1973) and *A Night Full of Rain* (1978). He also shot his first musical, *Man of La Mancha* (1972), for Arthur Hiller. "Everybody sung except the director and me!" Rotunno recalls with a chuckle.

Rotunno then reteamed with Fellini on *Amarcord* (1974), an affectionate memory piece about life in the director's hometown of Rimini during the 1930s. Featuring an array of lovably eccentric characters, the picture won the Oscar for Best Foreign Film and remains one of the director's most popular works. "I knew all of the characters personally, because I had met them with Federico many, many times before we started shooting," Rotunno notes. "In a way, I tried to put my memory in a condition very close to Federico's. What is in the film is just a small representation of the real characters. I guarantee that if we had portrayed them in a realistic way, it would have been most unbelievable!"

Amarcord begins with the townspeople of Rimini building a

huge bonfire (or *fogarazza*) on a pier to celebrate the end of winter. Rotunno used warm red gels to lend the lighting a nostalgic feel as Fellini introduced his characters. "The cameras went close in and followed the actors, and never came out further until the end of the film, when the young boy is again alone on the pier," Rotunno says. "The idea was to put the audience inside of the story from the beginning to the end of the picture."

Casanova, the pair's next project together, is arguably the most personal, ambitious, stylized and mesmerizing of Fellini's later films, and yet it was the least well-reviewed. "It was the most difficult film that I made with Fellini, really heavy to do, and frankly it is my favorite," Rotunno submits. "Fellini did *8½,* which was about a crisis of imagination and creativity, when he was very young, but *Casanova* was about the old age he was really feeling. Fellini and I journeyed around Europe like Casanova; we went to Germany, Venice and England, and I think we were able to do a good job re-creating the interior of a powerful prince's German home, the warmth of an Italian salon with paintings on the wall, and the foggy atmosphere of the English countryside. I would say it's maybe Fellini's best and most beautiful film."

In one of the film's most unforgettable sequences, Casanova (Donald Sutherland) meets his mother at a theater, where massive candelabras are lowered around them and snuffed out. Rotunno relates, "Casanova first meets his mother in a box in the balcony of the theater, and she is represented like the imagination, like a vision for Casanova: she is shadowy, and then her face appears. I did everything in this moment, with this scene, these characters, and the light, to create an illusion that would emphasize the meaning. The chandeliers were hanging up on the stage, and then

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they were coming down until the men could reach them with the snuffers; when the lights were going out, they were on dimmers, because the effect had to be realistic. Again, I have no secret; I did it with my talent and my intuition. We tried to give the impression of the truth, but nothing more."

One of the tougher Fellini assignments was *Orchestra Rehearsal* (1979), which presented an orchestra as an allegorical microcosm of a troubled world. The film was made for Italian television and shot on one set over a modest four weeks, after the director's ambitious contemporary fable *City of Women* was postponed. Fortunately, the project got back on track the following year, and proved to be one of Fellini's most successful films. "Fellini always worked with his own dreams, but *City of Women* is his most dreamlike picture," Rotunno opines. The picture's climactic sequence is also its most surreal, as Marcello Mastroianni takes a wild, sexually charged ride down a mad amusement park slide. The 200'-tall slide set was built on Cinecitta's backlot, and Rotunno directed his electricians to cover it with lights: "We set up many thousands of bulbs, with big bulbs in the foreground and small ones in the background, to make the slide look longer and make the perspective point of view move faster. Everybody said that Fellini and I built the slide for ourselves, and not the actors — to play, you know? Sometimes we sat on the slide together and went down with Marcello; I had a small light in my hand which I crossed over his face to create more movement."

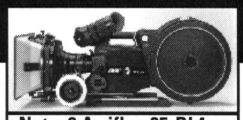
Rotunno's last collaboration with Fellini was the whimsical fantasy *And the Ship Sails On.* In one of the film's most memorable scenes, a group of musical artistes touring the ship happen upon the boiler room, where they give an informal recitation. "That sequence was shot on a very tall stage, which made it easier to light because there was more room — it's much easier to control the illumination when you can place lights farther away. When I can move, I can do everything! The lights were placed above and below the actors. Below, it had to be very dark, so I used a reddish color that came from the fire inside the boiler as the coals were stoked. Above, I used golden light on the faces of the singers, using a window behind the doorway as the motivation. The two types of lighting were intended to signify hell and paradise."

After completing work for *And the Ship Sailed On,* Fellini called Rotunno to make three extravagant TV commercials for a large Italian bank, but fate determined that the two friends had worked together for the final time. "We always talked

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Photosonics Actionmaster 500 high speed camera with Angenieux 12-120mm zoom, 4 ea. 400' magazines, batteries, Rare Beaulieu 6008S Super 8 sound camera w/Schneider 6-70mm zoom lens. Will accept 200' mags. (Non-PV item) Victor Duncan 6.6" 3 stage swing-away matte box (5)

Accessories, Lighting and Grip

Barney heaters for Arri 35-BL with 1000' magazine, & one with 400' magazine. American Road-Runner crankup stands ARRI: 1200 watt HMI ballasts (3), 1200 watt HMI PAR systems, 200 watt HMI system, ARRI 4K HMI fresnels, 575 HMI Par systems, 6K HMI fresnels. CMC: 2.5K HMI single end Par head (2), CMC 4K HMI single end Par head (2). Colortran: 4 light far cyc (12), collapsing 4K soft lites. Desisti: 1200 HMI PAR systems (12), 310 baby baby 1K fresnel (6), 320 2K junior fresnel (7), Desisti 350 5K senior fresnels (8), 370 baby junior 2K fresnel (12), 380 baby senior 5Kfresnel (6), baby tener 10K fresnel (2). Laniro: 10K fresnels (3), 1200w HMI ballast (6). Kobold: 1200w HMI Par system (10), 575 watt HMI system (2). Lee: 1200 watt HMI fresnel system, 12K HMI fresnel system (3), 2.5K HMI fresnel system, 2K Xenon Followspot (3), 4K HMI fresnel system (3), 575 watt HMI fresnel system, 575 watt soft arc heads (2), Matthews grip (Taco) carts (2). Modulight: 4K bag light, 8K bag light (2). Mole Richardson: 2K supersofts (3), 4K supersoft (3), 4x4' tube Molescent (3), 6 lite chicken coops, 8K supersoft (2), 8x18" tube Molescent (12), baby roller stands, (10), C-stands with arm (4), Junior roller stands (15), Molevators (10), Baby roller stands, Junior roller stands. Mole-Richardson type: 2001 combo Baby/Juniors (5), 1K Mickey Moles (11) Mole-Richardson type 4091 2K Mighty Moles (37), 410 Juniors (6), 412 Juniors, (26), 414 Seniors (23), 415 Seniors (26), 416 teners (no fresnels —Prop quality). Prestige 2000 dimmer console w/monitor, Scenemaster 60 console w/monitor, Strand 12 lite cyc strips, Taco carts, Vanguard 20' rolling stage scaffold, pneumatic wheels, steering capability (2)

Optics

Angenieux 1.6X range extender for Angenieux 25-250mm zoom (5), Angenieux 12-120mm T2.5 zoom lens, Arri B mount, Angenieux 20-120mm T2.9, HEC zoom lens, Arri bayonet mount (5), Angenieux 20-120mm T2.9 zoom lens, BNCR mount, Angenieux 20-120mm zoom T2.9 PL mount, Angenieux 20-120mm zoom T2.9 specify mount, Angenieux 25-250mm T3.9 zoom lens, Arri bayonet mount, Angenieux 25-250mm T3.9 zoom lens, Arri bayonet mount (9), Arrflex periscopic attachment for S, M, 35 (5), Arriflex FF-1 follow-focus unit (6) Arriflex straight (Jurgen) video door for 35-III (4), Arriflex T bar for 16-SR video tap with CEI VP-III or similar camera (4), CEI Safe area generator (frameliner) (4), CEI VP-II video assist camera (8), CEI VP-III video assist camera (5), Century 300mm f/ 4.2 Tele-Athenar-II, Arri mount, Century 650mm f/6.8 Tele-Athenar-II, Arri mount, Cinema Electronics Video flicker processor (3), Coherent VT-200 VHF transmitter (3), Cooke 20-100mm T3.1 zoom lens, PL mount, Cooke 25-250mm T4 Mark II, PL mount, Jurgen rotating eyepiece for 35-III (old style), Jurgen Video tap door for Arri 35-III (3), Kilfitt 40mm f/2.8 Makro Kilar, Arri mount (3), Optex/Canon 14mm f/2.8, PL mount (2), Optex/Canon 2X range extender for Canon telephoto (4), Set of Bausch and Lomb f/2 Super Baltars, 20, 35, 50, 75 and 100mm, Mark II mount. USED but good FILTERS Victor Duncan hand-held follow-focus rig (5), Zeiss: 12mm T1.3 Super Speed Distagon, Arri bayonet mount (3), 16mm T2.4 Distagon Arri mount (4), 25mm T1.4 Super Speed Distagon Arri Bayonet mount(2), 50mm T1.4 Super Speed Distagon, Arri Bayonet mount. (3), 85mm T1.4 Super Speed Distagon, Arri Bayonet mount (4), Super Speed set consisting of 18mm, 25mm, 50mm and 85mm Super Speed Distagons.

Tripods and Camera Support

Norma Doorway Dolly, 45° aluminum wedges (5), adapter: Mitchell to NCE or O'Connor dawball (4), Arriflex shoulder pod for S or M Auricon rolling triangle with tie-downs, Elemack Spyder dollies totally rechromed and refurbished (5), Hi-hat: NCE bowl (3), Hi-hat: O'Connor clawball (3), Lisand rolling triangle with tie-downs (10), Lisand rolling triangle with tie-downs (no wheels), Mini-Worrall gear head Mitchell (Arri) geared head. Similar to Worrall, but cable drive. Very smooth. Mitchell top baby legs (7), O'Connor: 100 fluid heads (12), 1030-B fluid head on O'Connor 35L metal tripod 100mm bowl, 150 fluid head (2), 200 fluid head (2), 201 levelheads (4), 30 fluid head (3), 50 fluid heads (2), 50 head, quick release, clawball, handle, 50-D head, quick release, 100mm, no plate, no handle, clawball high-hats (11), clawball top baby legs (8), Pro Jr. top standard wooden legs, Pro Jr. top wooden baby legs Rolling triangles (6), Sachtler 7+7 Panorama fluid head and legs, Sachtler 7+7 Studio 30 fluid heads (3), Samcine adjustable tongue mount, Samcine Limpet Mount with 2 std. and one offset cup, Samcine Limpet Mount with 3 std. cups, Wooden tripods: 150mm bowl, sawed-off, 150mm bowl std., Lisand/ O'Connor clawball standard (5), Mitchell top baby (4), Mitchell top, sawed-off (7), Mitchell top, standard (full size) (6), NCE bowl, baby (4), NCE bowl, standard (6), O'Connor clawball, baby, O'Connor super-clawball, baby, Pro Jr., baby (2), Worrall gear head (3) and a Doorway dolly.

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about doing another film," Rotunno says. "When Federico was sick, he was in the hospital in Ferrara, a beautiful town in northern Italy. When I went to visit some relatives there, I called Federico, and we talked and talked. He was very weak, but he told me, 'Peppino, listen, why don't we meet next Saturday in front of Cinecitta?' I think he didn't want me to see him in the hospital. Unfortunately, he never arrived at the studio."

Just before shooting *And The Ship Sails On,* Rotunno completed Bob Fosse's *All That Jazz.* During the following decade, he also worked with such accomplished directors as Robert Altman (*Popeye*), Alan Pakula (*Rollover*), Richard Fleischer (*Red Sonya*), Terry Gilliam (*The Adventures of Baron Munchausen*), Sidney Pollack (*Sabrina*) and Italian shock-horror *maestro* Dario Argento (*The Stendhal Syndrome*). He has also experimented with the HDTV and Showscan formats.

In surveying his nearly 60-year career, Rotunno likes to say that he has created a great deal out of very little; he points out that just as music has only seven basic notes, cinematography has only three lights: "You've got the key light, fill light, and back light, out of which comes an infinity of results. The light is like a kaleidoscope, but those three lights mixed together are more touchy than the kaleidoscope. It's difficult to ask a painter, 'How did you paint the picture?' I go with my eyes and intuition. I like so much to light, and I cannot stop. When I was shooting with Fellini, I was always lighting the next shot, because I was afraid to lose the idea of the light. My love for this work made it really easy. I work very hard, but the days seem only five minutes long. It's a business I'm very, very proud of, because I was able to create a wonderful harmony with my directors, and to release their fantasies." ■



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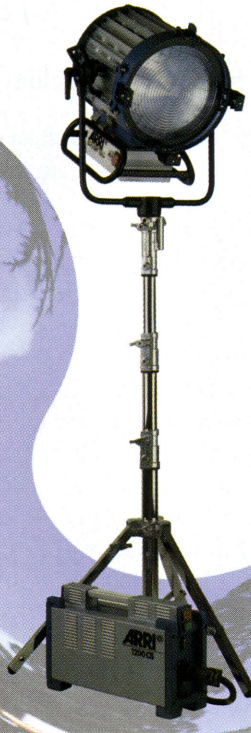
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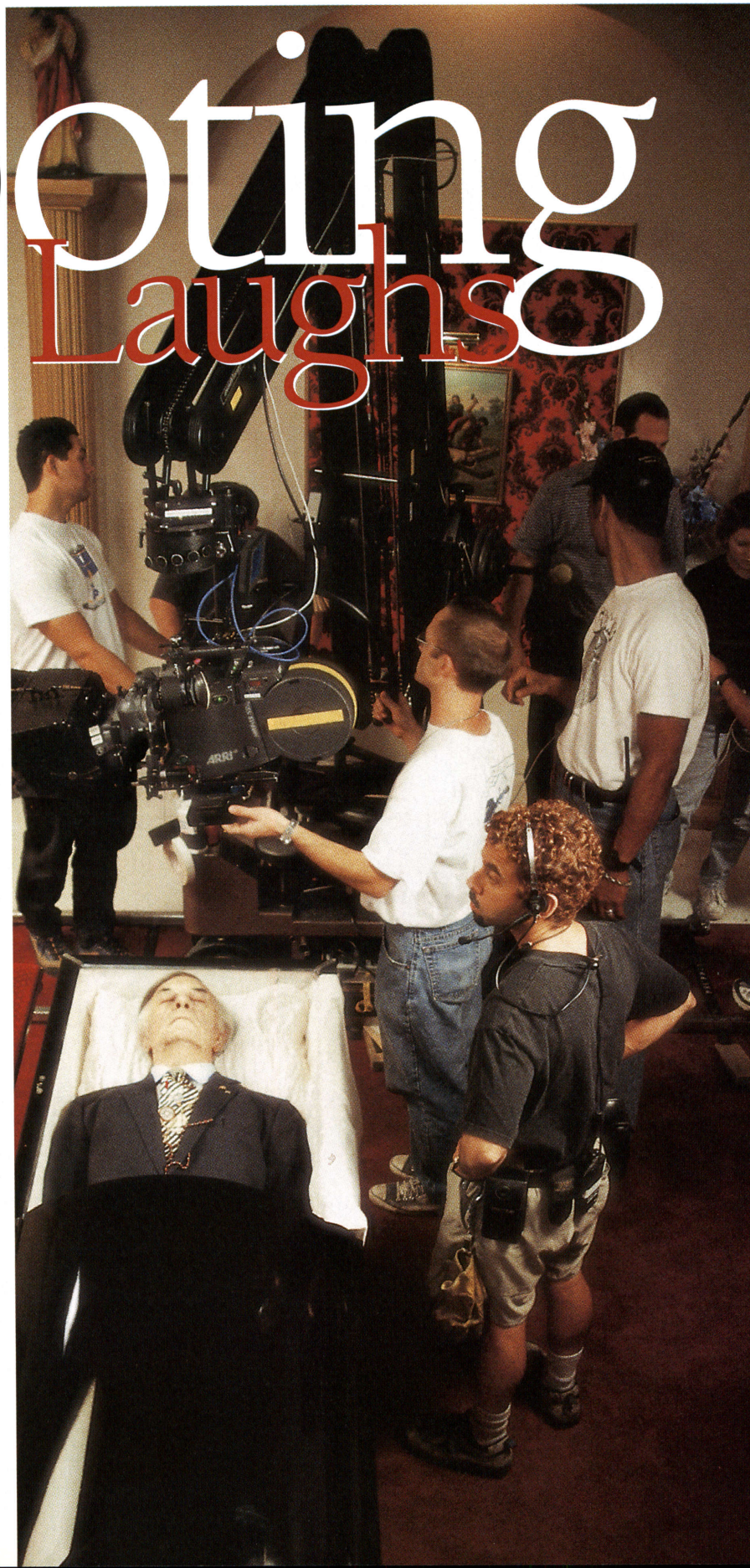
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Shooting for Laughs

Director of photography David Klein cuts loose on writer/director Mike Valerio's indie comedy *Carlo's Wake.*

by David E. Williams

Photography by Lucy Nicholson and Todd Campbell



Working in the world of independent filmmaking has provided a wealth of learning opportunities for cameraman David Klein, who marked the beginning of his career with one of the first breakthrough American indie films.

A native of Idaho, Klein attended the University of Idaho at Moscow before studying at the Vancouver Film School in British Columbia, where he befriended fellow students Kevin Smith and Scott Mosier. After moving to Seattle, Klein found work as a camera assistant, but soon received a call from Smith and Mosier, who asked him to join them in New Jersey and photograph their no-budget film *Clerks.* "No one else was going to allow me to shoot a picture then," Klein remembers. "I'd just come out of film school and had very little experience,

so I decided to grab the opportunities as they came."

Vulgar and hilarious, the gritty, 16mm black-and-white comedy about irate convenience store workers proved to be a second education for Klein. In addition to his jobs as director of photography and operator, he pulled duty as an actor, playing five small roles. "Looking back, I should have done a lot of things differently," Klein notes, "but if I had, I don't think the film would have retained its charm. I actually like the way it looks because it fits the characters and the material."

After the success of *Clerks* — which gained attention at the 1994 Sundance Film Festival and became a theatrical hit — Klein "went back to school. Luckily, Kevin brought me back to do his next film, *Mallrats*."

The $6 million teen comedy, which is set entirely in a large suburban shopping center, was financed through Gramercy Pictures; Klein admits that he has "no idea how Kevin and Scott convinced the studio to let me shoot that film. Because of the budget, we had all the toys we could want and a big crew, so I had to learn how to delegate responsibility. On *Clerks,* there was no 'camera department' aside from myself and two others, Vincent Pereira and Ed Hapstak, who also had real jobs and couldn't be with us all the time. I was loading, cleaning the lenses, and doing the lighting. After burning through a few magazines, we had to stop shooting because I was usually the only one around who could load them. Going from that to shooting with a camera operator, assistants, a grip crew, and a gaffer was a wonderful learning experience."



Opposite: Shooting *Carlo's Wake* at Santa Monica Studios. For this setup, the camera was mounted to an 8' Z-Jib from Innovision, which was outfitted with a Weaver/Steadman head. The rig could track along with character Rosie Torello as she walked toward Carlo's coffin, and then pass over the casket as she came to a halt. This page, top: Key grip Anthony Vietro, writer/director Mike Valerio, cameraman David Klein, second assistant Paul Maletich, loader John Hall and first assistant Emily Mackley pose with casket-bound performer Martin Landau (doubled here by a very convincing prop). Bottom: Klein and Mackley set up in the soft-lit Coliseum room for a high-angle shot.

For his third film with Smith, the romantic-comedy *Chasing Amy*, Klein notes, "we went back to our roots, shooting in Super 16 with a little more of that run-and-gun style we'd used on *Clerks.* The film cost about $250,000 and was more ambitious photographically than our other films, partly due to the fact that we weren't trapped in a particular location. We weren't in a convenience store or a mall, so the kind of flat lighting I'd used on those films wouldn't be right. I still wanted the lighting to have a natural feeling, but I also wanted darker areas and more contrast. My experience of shooting other projects in between working with Kevin also contributed to that aesthetic; I'd learned enough to make me want to try new things." Klein also directed second unit and did some Steadicam work on the picture.

In addition to his films with Smith, Klein has photographed the indie features *Vulgar, When, Eyes to Heaven* and *August,* as well as several short films. He also shot second unit for Jeffery D. Smith on *Not This Part of the World.*

Ironically enough, Klein's credits almost prevented him from working on his latest picture, the comedy *Carlo's Wake.* The project was the brainchild of Mike Valerio, who honed his skills in the television world while directing NBC and CBS promos featuring such top as Will Smith and Ted Danson. Recalls Valerio, "I met with a lot of cinematographers, and Dave's name came up, but as soon as I saw that he had shot *Clerks* and Kevin Smith's other films, I didn't even want to meet him. Those are dialogue-driven pictures, and they're not particularly cinematic. I didn't want *Carlo's Wake* to look like a 'filmed play.' But I was convinced by my producer to meet Dave, and he really changed my mind about what he could do as a cinematographer."

Carlo's Wake was adapted by



Shooting for Laughs



Gaffer Bill Scalzitti takes a light reading for a shot on actress Helen Slater. Klein used a 5K fitted with a Chimera lightbank for sidelight, and flagged off a China ball to create a bit of fill. "On some films, you sometimes want to lose the faces in shadow to add mystery or emotion," Klein remarks, "but that wasn't appropriate for this picture. This isn't a sitcom, but we didn't want to miss any of the actors' expressions. The film does deal with death, but it *is* a comedy."

Valerio and his wife, actress Rosie Taravella, from her one-act play *Pa's Funeral.* The story concerns the Torellos, a dysfunctional Italian-American family distraught over the death of their patriarch, Carlo (Martin Landau). Largely taking place in a funeral home before the burial service, the film details the Torellos' absurd family politics while also examining the selective memories of each of Carlo's children: daughters Rosalie (Taravella) and Anna (Juliet Landau), and sons Bennetto (Christopher Meloni) and Antonio (Ken Marino).

Klein reports, "When we first met, Mike and I discussed a number of films and how the camerawork supported the emotions of their stories. In general, he really likes camera movement, and he wants those moves to say something. He sought to emphasize emotions with movement, or the lack thereof."

To illustrate the specific camera language he was after, Valerio had put together a reference reel from various films, including *Mean Streets, GoodFellas, Body Double* and *Natural Born Killers.* "Since our script was based on a one-act play and had a lot of characters, I was very concerned that it would be incredibly talky and not interesting visually," Valerio says. "As a moviegoer, I tend to dislike films that are either based on plays or set in a single location. *Lifeboat* and *Reservoir Dogs* are two of my favorite exceptions. In the case of *Carlo's Wake,* though, I was directing a film based on a play, so this dilemma was something I was very concerned about. The reference reel tended to be more about trick shots and editing, because I wanted to hide the fact that we were going to largely be in two rooms for the entire film."

Another picture highlighted on the reel was the Howard Stern comedy *Private Parts,* which was photographed by Walt Lloyd. Asked how this film served as a reference, Valerio notes, "The radio station sequences had Howard and his crew in these very cramped spaces doing a lot of talking, which, onscreen, *could* have been very boring." The filmmakers detail that Lloyd's use of unusual camera angles lent visual interest to several potentially constrained scenes. "That impressed us with how important it was to use angles that one couldn't necessarily imagine while watching live theatre," Valerio explains. "We wanted angles that were inherently cinematic, especially scenes that were going to be covered in one or two shots due to time constraints. That often meant shooting from very high or very low."

While reviewing the reference reel with Klein, Valerio "would cue up a certain move and then ask, 'How would you do that?'" the cameraman recounts. "I'd explain that we could do it with a jib, a Steadicam on a dolly, or whatever, giving him a couple options. I don't think Mike was really so much asking 'Can you do that?', but rather, 'Do you like this?' and 'Do you want to be doing this?' And I really did."

The reference reel also "gave us a basic working language created from 20 different movies," Valerio stresses, "which was important because I had just met David and we were going be shooting our film on a schedule of just 18 days. Whenever we were in a jam, those clips gave us a starting point for our discussions."

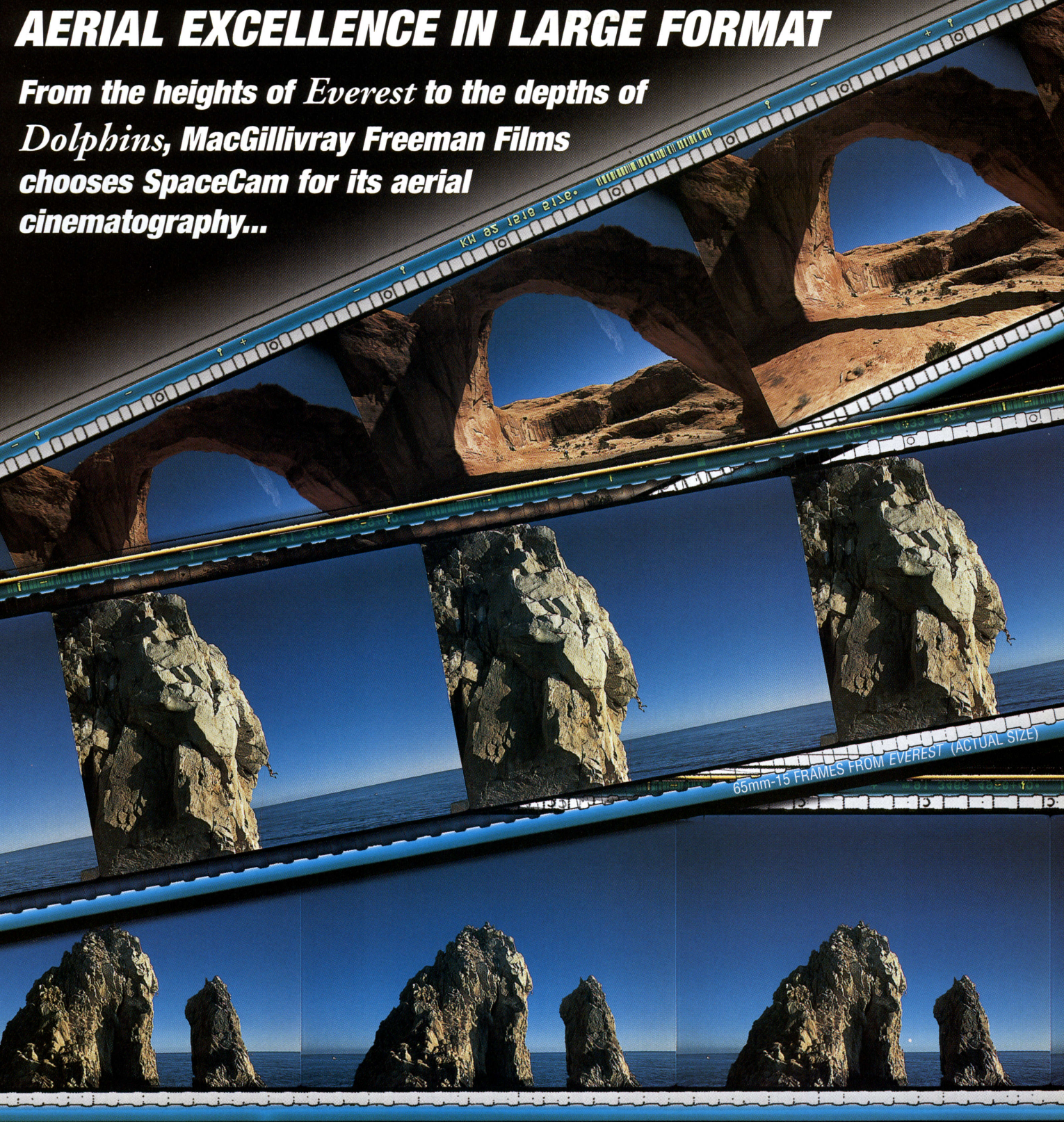
Aiding this process was the fact that Valerio had fully storyboarded the film with artist Kyle Sullivan, though the boards were not strictly adhered to. "Sometimes we'd just do pieces of them, because on set we'd figure out how to condense certain lines or action to save time," the director says. "In other instances, what seemed like a good idea three weeks earlier, while we were sitting around my dining room table, just didn't work on stage with the actors. But again, the main reason we completely storyboarded the film was that I was paranoid about having a talky movie. I wanted to do whatever I could to make each scene different from the preceding and following scenes."

Asked to describe his lighting approach for *Carlo's Wake,* Klein replies, "It's a little flatter than I've been lighting lately. We did that for a number of reasons. First, we had to light large areas in the studio so we could move around quickly and give the actors plenty of space to work. I used a lot of softboxes, either hung from above or mounted on stands, which allowed us to change the lighting very quickly."

Observed shooting *Carlo's Wake* last October at Santa Monica Studios, Klein and his crew, which included first assistant Emily Mackley, second assistant Paul Maletich, gaffer Bill Scalzitti and key grip

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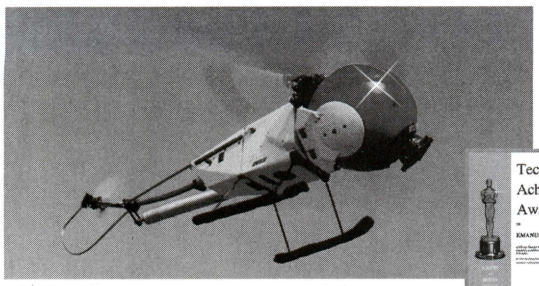
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Shooting for Laughs

Anthony Vietro, were certainly wasting none of their 18-day schedule. The primary sets built there were the funeral home's foyer, featuring stained-glass windows, and the garishly decorated "Coliseum" room, which holds Carlo's casket and serves as his mourners' main gathering site.

Suspended from the pipe grid above the Coliseum room was a 6' x 6' softbox supplying an ambient glow. Hung around the uppermost perimeter of the set, a series of 2K zip lights offered more directional illumination, while warm-gelled nook lights aimed up from behind a dozen Roman-style columns set along the room's walls added a distinctly practical feel to the overall lighting. At the far end of the room, a Chimera with a 2K blonde hung above a raised stage, while several more warm, uplight practicals filled in the back wall.

However, this naturalistic softlight approach was not the rule throughout *Carlo's Wake;* in fact, the photographic treatment for one scene was specifically inspired by Robert Richardson, ASC's arresting work in *Natural Born Killers* — specifically, the sequence in which that film's serial-killer lovers stumble into a vast, emerald-hued drugstore. "There's a scene in our film that takes place in the funeral parlor's embalming room, where two morticians are working on a body," Valerio says. "We were looking for a very 'Frankenstein's laboratory' feel, and thought that a greenish look would suit the scene really well."

Klein adds, "We lit that scene entirely with Kino Flos, but the standard green fluorescent tubes weren't enough to give us the *extreme* green we were after, so I added several layers of plus-green to them. We'll also add quite a bit more green in the timing."

Klein's main camera on the show was a Moviecam Compact, although he occasionally employed an Arriflex 535 to take advantage of its programmable speed-ramping

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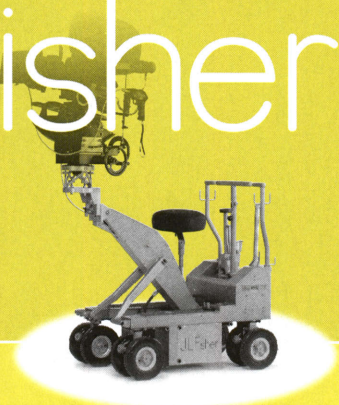
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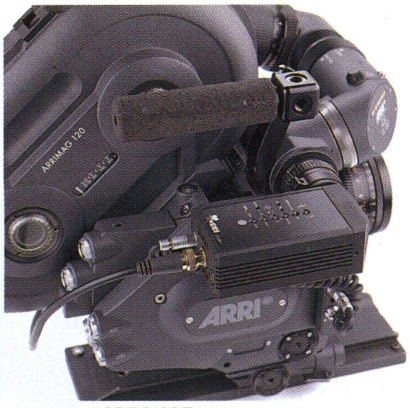
Shooting for Laughs

capability. The cinematographer framed *Carlo's Wake* entirely with Zeiss primes, using a 25mm as his workhorse and seldom going above 100mm. The camera package was obtained from Otto Nemenz in Hollywood. "We made a few concessions in terms of lenses to save ourselves some money," the cameraman says, "which allowed us to afford some special things when we needed them, like a few extra days with the Steadicam or the Arri 535. We got a fantastic deal from Alex Wengert at Otto Nemenz, but we wouldn't have used longer lenses — our sets were too small — or a zoom; I don't care for them, and Mike wanted to move the camera rather than zooming."

To keep a consistent look, Klein shot almost the entire film at T2.8 with Kodak's Vision 200T 5274.

Speed-ramping was used to highlight the emotional content of certain scenes, exemplified by an early sequence in which the eldest Torello daughter, Rosalie, arrives at the funeral home and sees her father for the first time since his death. "The specific shot begins as she enters the Coliseum room, walks to the casket and pulls out her rosary beads," Klein says. "During that walk, we wanted to go to 48 fps and then come back to 24 fps when [actress] Rosie Taravella had her first line. We did that with the 535 plugged into my Mac PowerBook, and it worked quite nicely. We could have used other tools to control the ramping, but I already had the Arri laptop camera control software and wanted to try using the PowerBook; the scene in question was a perfect opportunity. I just programmed the ramp and then had my second assistant, Paul Maletich, hit the control to speed up the frame rate as soon as Rosie pulled out her rosary beads, using that movement to accentuate the slow motion."

Asked what inspired this use of slow motion, Valerio confesses, "I ripped it off from Martin Scorsese, Michael Chapman [ASC] and



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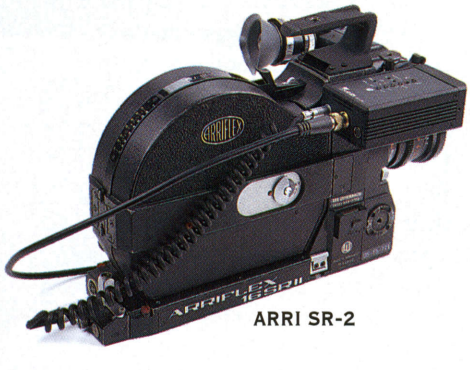
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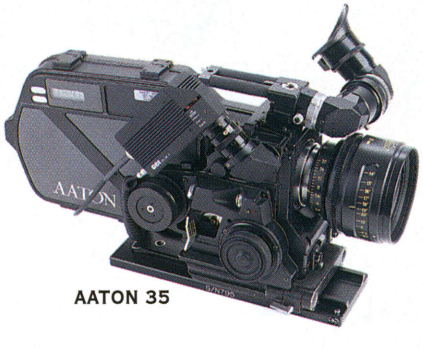
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Raging Bull. They used it when Jake LaMotta was in the ring during a match, and after seeing that 18 years ago, I never forgot it. In our scene, we used slow motion to highlight a sad, emotional feeling, which ends as Rosie reaches her father's casket and slaps it, bringing us back to 24 fps and ending the shot with a joke. For the audience, this also sets up the rest of the film, which often goes from sad to funny without a moment's notice."

For a courtyard-set dance sequence, Klein utilized another in-camera technique to suggest an emotional connection between feisty teenager Gwen (Tamara Mello) and the somewhat-sleazy Derek (Charles Rocket) — who actually attend Carlo's service as the guest of another woman. After sharing a joint, the pair conspire to make love in an empty casket. "Mike really wanted them to be in a different state of mind, their own world," Klein describes, "but he didn't want to use psychedelic lighting or other obvious effects, so I suggested shooting the sequence with a 45-degree shutter angle. We were shooting on stage — interior for exterior — which gives the scene a certain feel, but the sharpening of the image due to the shutter effect heightens the sense that these characters are isolated." The cameraman adds that the motion of the dancers accentuated the technique's tendency to strobe, "but, in this case, we felt 'the more the better.'"

The notion of using unusual camera angles came into play while shooting a dialogue scene that originally had the characters simply seated in the Coliseum room. "Just before shooting it, we decided that the scene would look really boring if they were just sitting there doing their lines," Valerio says, "so we came up with the idea that one of them has lost a contact lens. That allowed us to have the actors crawling around on their hands and knees, looking for the lens while delivering their lines. It also gave us a better opportunity for

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extreme low angles. Dave just put the camera on a sandbag on the floor and pulled it along, covering the scene in one setup.

For flashback sequences in which the Torello siblings respectively recall personal memories of their father, Valerio wanted a "home-movie look that could represent four distinct visions," Klein says. "Originally, we thought about shooting them in Super 8, but we didn't have the budget to do the blow-up from Super 8 to 35mm, so we just shot in 16mm, shooting two visions with 7239 reversal film and two with 7298, which I pushed to increase the grain and emulate that home-movie feel."

Valerio adds, "The psychological justification for that technique was the idea that while children share the same parents, they have different individual relationships with them and see them differently in their mind's eye. The use of different stocks helps to suggest that notion, but we also filmed the sequences four different ways, using slightly different line readings, costuming, lighting, and emotional tone, because everybody remembers things in their own way."

Klein notes that these sequences also feature more expressive lighting with contrast and blown-out highlights, which adds flavor to the film's overall look.

Having recently seeing a rough cut of *Carlo's Wake,* Klein reports, "Mike really wanted a frenetic camera that moved around all the time, and while I knew at the time that we were moving around a lot, things *really* move on the screen. I'm amazed that were able to pull off this film in such a short period of time. I wish we could have had a few more days, but that beast of shooting a movie in three weeks finally buried its fangs into us."

Concludes Valerio, "I've shown this cut to a few people now, and it moves like a rocket. You don't get bored with the spaces at all, so I'm pretty happy with that." ■

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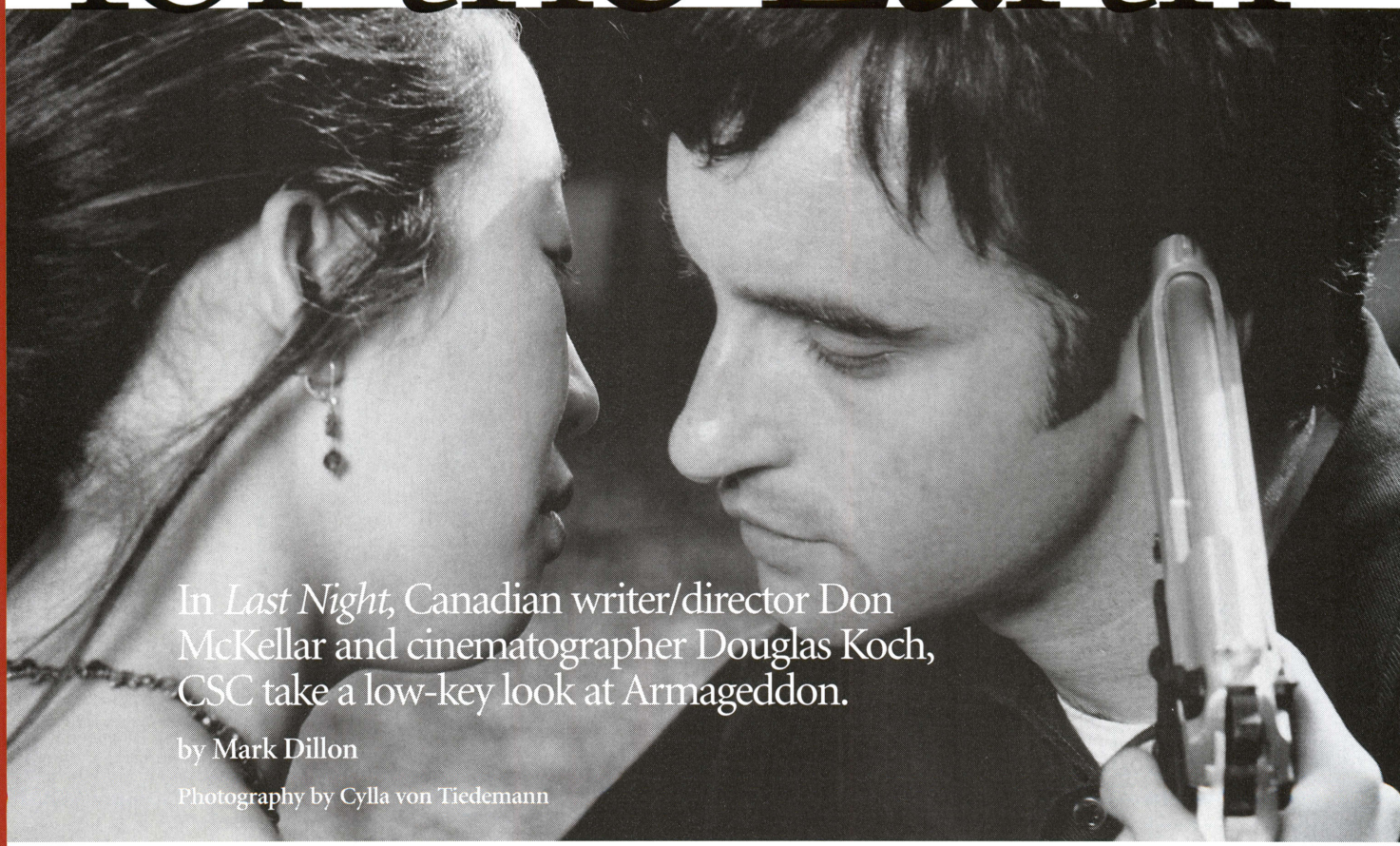
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An Elegy for the Earth



In *Last Night,* Canadian writer/director Don McKellar and cinematographer Douglas Koch, CSC take a low-key look at Armageddon.

by Mark Dillon

Photography by Cylla von Tiedemann

Motion pictures depicting the end of the world proliferated in the Cold War era, with notable entries including *On the Beach*, *Fail Safe* and *Dr. Strangelove.* As the nuclear threat faded, so did the doomsday genre, but with the end of the millennium looming, widespread fear for Earth's future has resurfaced. Thus, when French production companies Haut et Court and La Sept ARTE challenged 10 international filmmakers to produce a film apiece for their joint series *2000, Seen By…*, it wasn't surprising that one of the entries — *Last Night,* directed by Canadian actor-writer-director Don McKellar — would equate the arrival of the 21st century with Judgment Day.

Other films in the series include *Midnight* (Walter Salles and Daniela Thomas, Brazil), *The First Night of My Life* (Miguel Albaladejo, Spain), *The Wall* (Alain Berliner, Belgium), *Frankfurt-Millennium* (Romuald Karmakar, Germany), *The Book of Life* (Hal Hartley, USA), *The Sanguinaires* (Laurent Cantet, France), *Life on Earth* (Abderrahmane Sissako, Mali), *Tamas & Juli* (Ildiko Enyedi, Hungary) and *The Hole* (Tsai Ming-liang, Taiwan).

McKellar is best known for acting in movies directed by fellow Canadians Atom Egoyan, Bruce McDonald and Francois Girard (he has also written screenplays for the

latter two). He makes his feature directorial debut with *Last Night*, which captured Le Prix de la Jeunesse (Youth Prize) at last year's Cannes Film Festival, as well as 12 nominations at the 1999 Genie Awards (the Canadian Academy Awards), including nods for Best Picture, Direction, Screenplay and Cinematography.

Set in Toronto during Earth's final six hours, *Last Night* is a surprisingly subdued end-of-the-world piece. Although the reason for the impending disaster is never made clear, the film's never-setting sun implies some sort of orbital disturbance. The cast of characters have accepted their unavoidable fate, which will come to pass when the clocks strike midnight. Thirtysomething Patrick Wheeler (McKellar) is off to his parents' home to reenact Christmas morning, his mother's favorite time of year. He crosses paths with Sandra (Sandra Oh), whose efforts to reunite with her spouse are thwarted when vandals capsize her car. Her husband, Duncan (director David Cronenberg), is a dedicated gas-company executive who phones customers to assure them that their service will continue until the bitter end. Meanwhile, Patrick's friend Craig (Callum Keith Rennie) attempts to indulge his every sexual fantasy, including a romp in the sheets with his childhood French teacher, Madame Carlton (Genevieve Bujold).

McKellar's many acting credits include Patricia Rozema's 1995 film *When Night is Falling*, which was shot by Douglas Koch, CSC, whom McKellar simply called out of the blue. "I had to make up my mind really quickly as to whether I was going to do it or not," the cameraman recalls. "I agreed to shoot the film because I really liked the script." McKellar says that the cinematographer proved to be both good with actors and more than willing to experiment.



Opposite: Patrick Wheeler (writer/director Don McKellar) has an intimate encounter with Sandra (Sandra Oh). This page, top: Wheeler sports a lounge-lizard look. Production designer John Dondertman sought to give the film a "retro-futuristic" style. Bottom: Wheeler and friend Craig (Callum Keith Rennie) plot out their remaining hours.

After attending Toronto's Ryerson Polytechnic University, Koch put together a demo reel in 1983. He did a substantial amount of work as a camera assistant on low-budget independent films, but wound up finding more work in the fledgling music-video industry. He cites local cameraman Alar Kivilo, CSC (*A Simple Plan*, the TV miniseries *The Invaders*) as a guiding force in those early days. "I assisted him on just a few rock videos," Koch recollects, "but I really admired his taste, and I learned a lot from him."

Since then, Koch has shot more than 100 music videos for Canadian artists such as Bruce Cockburn, Anne Murray and Sarah McLachlan. In 1994, he won the Best



An Elegy for the Earth



Sandra's car is overturned by vandals. Lacking the budget of Hollywood-style disaster films, the production instead utilized clever art direction and camerawork.

Cinematography prize at the Canadian Music Video Awards for his photography on "... And if Venice is Sinking," a video for the band Spirit of the West. In addition to videos and numerous commercials, his credits also include 1993's Genie Award-winning half-hour TV drama *Battle of the Bulge*, and the features *I've Heard the Mermaids Singing*, *Night Friend* and *Friends, Lovers and Lunatics*.

During the hurried preproduction period on *Last Night*, McKellar pointed Koch to 1970s sci-fi movies set within urban environments, such as *The Omega Man* (photographed by Russ Metty, ASC) and the *Planet of the Apes* films (namely *Escape from...*, shot by Joseph Biroc, ASC and *Conquest of...*, photographed by Bruce Surtees). "There was a certain harshness or starkness about them that Don liked," the cameraman explains. To convey the blanching effect of unending sunlight, the production team sought exteriors devoid of greenery, a difficult exercise in a city as tree-filled as Toronto. Although McKellar had to compromise somewhat on that point, the emphasis on artificial scenery imbues the film with brown tones.

Working with a budget of just $1.5 million [U.S. dollars], McKellar did not have the planet-killing meteors of *Deep Impact* and *Armageddon* at his disposal, so he strove to lend his film a unique look. Production designer John Dondertman (*Long Day's Journey Into Night*, *When Night is Falling*) decorated the sets in a style that McKellar calls "retro-futurism" — Duncan's monochromatic office harkens back to '30s modernism, Craig's love pad is done up in '60s lounge-lizard pastels, and the autumnal hues and '70s architecture of the Wheeler home suggest an apocalyptic *Brady Bunch* aesthetic. "We used design elements from all of those different periods, in which there was a very optimistic view of the future," McKellar explains. "I kept that in mind in terms of the film's look, music and shooting style, because that [hopefulness] seemed heartbreaking in the face of a world with no future."

The filmmakers initially considered using reversal film, with either standard or cross-processing, but Koch notes, "That seemed fairly risky, and getting local labs to work that way, especially in terms of the cross-processing, was a bit of a problem. Cross-processing gives a nice contrasty image, but the color saturation also seems to increase quite a bit; Don was interested in a more desaturated look." The duo also contemplated shooting color stock, making black-and-white and color interpositives and then re-registering them for desaturation. "By doing that, you can control every shot and every scene precisely," the cinematographer expounds. "You can have a higher-contrast black-and-white version and just mix the color in. It was a very exciting idea, but on a film of this scale, we estimated that it would cost an extra $100,000 — the whole film would have become a giant optical."

The technique that seemed most promising during their tests, which were performed at Deluxe in Toronto, was the bleach-bypass process (see details on this method in "Soup du Jour," *AC* Nov. '98), which Koch tried first on an original

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negative. "They can do what they call a 'partial' or 'complete' bypass," he elaborates. "The partial seemed virtually invisible — you couldn't really see any effect from it — whereas the full one was quite striking." However, the cameraman decided that applying the process to the original negative would be too much of a gamble. When bleach-bypass was administered at the printing stage, he found the results to be "quite nice, although it created more of a lush look which resembled that of the ENR-type processes." Furthermore, no one in production wanted the film's look to depend so heavily upon the printing stage, which could not be controlled outside of North America. In the end, bleach-bypass was added at the interpositive stage. Since the process substantially increases contrast, Koch had to light his images flatter than usual and overexpose them. According to McKellar, if bleach-bypassing became unworkable, the resulting footage would be "quite garish and flat, because everything — the characters' clothes and all the walls — would be very bright-colored."

Koch credits the location scouts with finding some appropriately austere settings. The pale hues of Duncan's office, for example, compounded the desaturation effect of the bleach-bypass. As a constant reminder of the sun's extreme brightness, Koch placed large light sources outside the building's windows — multiple 18K and 12K HMI fresnels, and 6K and 4K HMI Pars — and pumped them through frames of diffusion. "The more you keep lighting gear outside of the room — especially in practical locations where you can't cheat walls out — the more flexible the shots are," says Koch. Since color could not be relied upon for separation, the cinematographer accentuated the office's depth by using smoke, which was picked up in the general glow of the illumination.

A counterpoint to Duncan's spacious suite is Craig's cramped apartment, which was shot in an actual penthouse unit. Since the crew could not illuminate the 30th-floor unit from outside, fixtures were squeezed in wherever possible. The bedroom's color scheme — deep reds and purples — makes for a seductive setting worthy of the grungy Lothario. To achieve a hue characteristic of sunlight streaming through scarlet curtains, Koch fitted his fixtures with a red Rosco gel. The bleach-bypassing produced quite an interesting effect on the space's sultry shades. "There were these deep-blue satin sheets that looked really cool with the highlights we got off them," says Koch. "Mixing normal white

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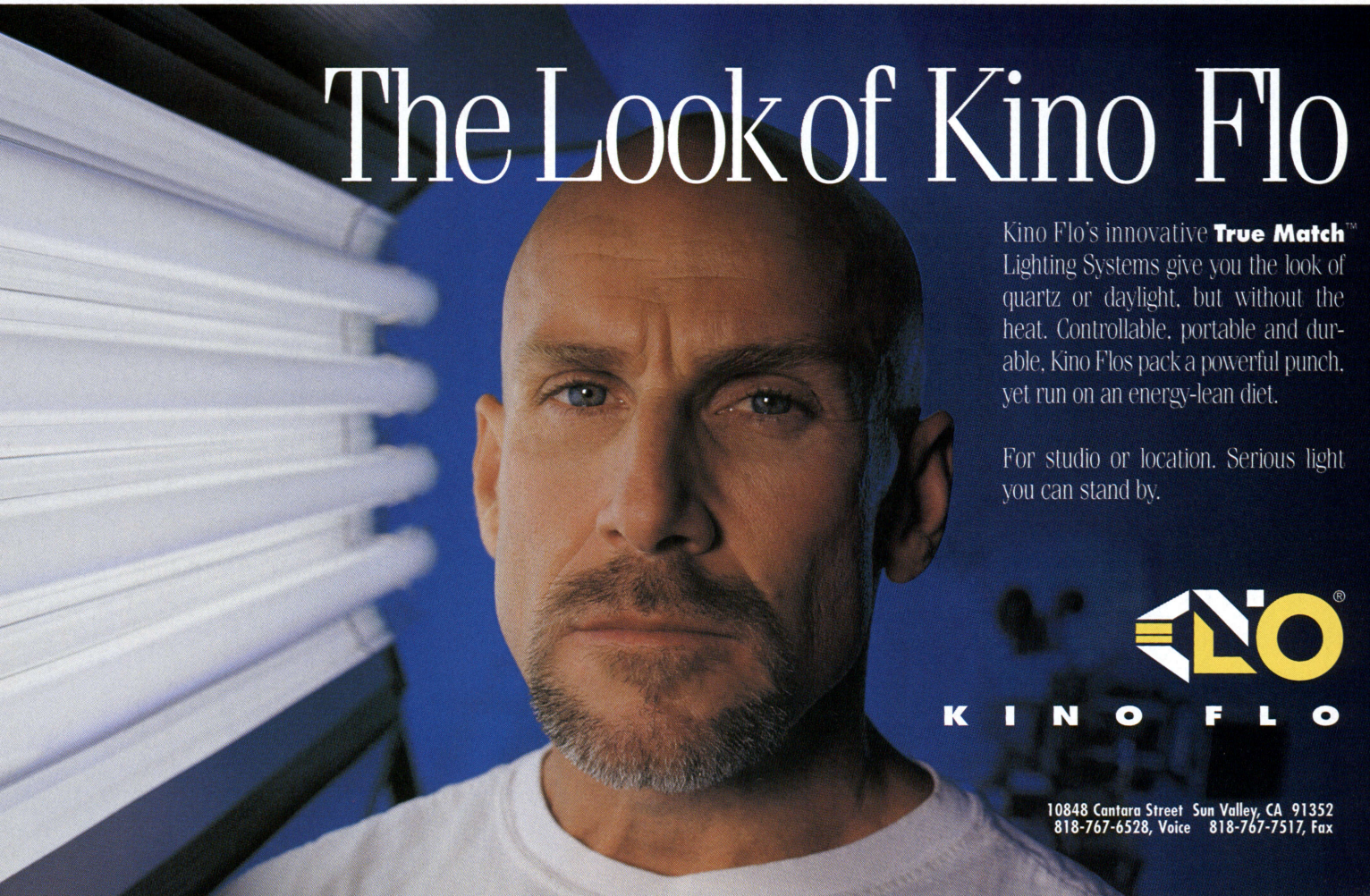
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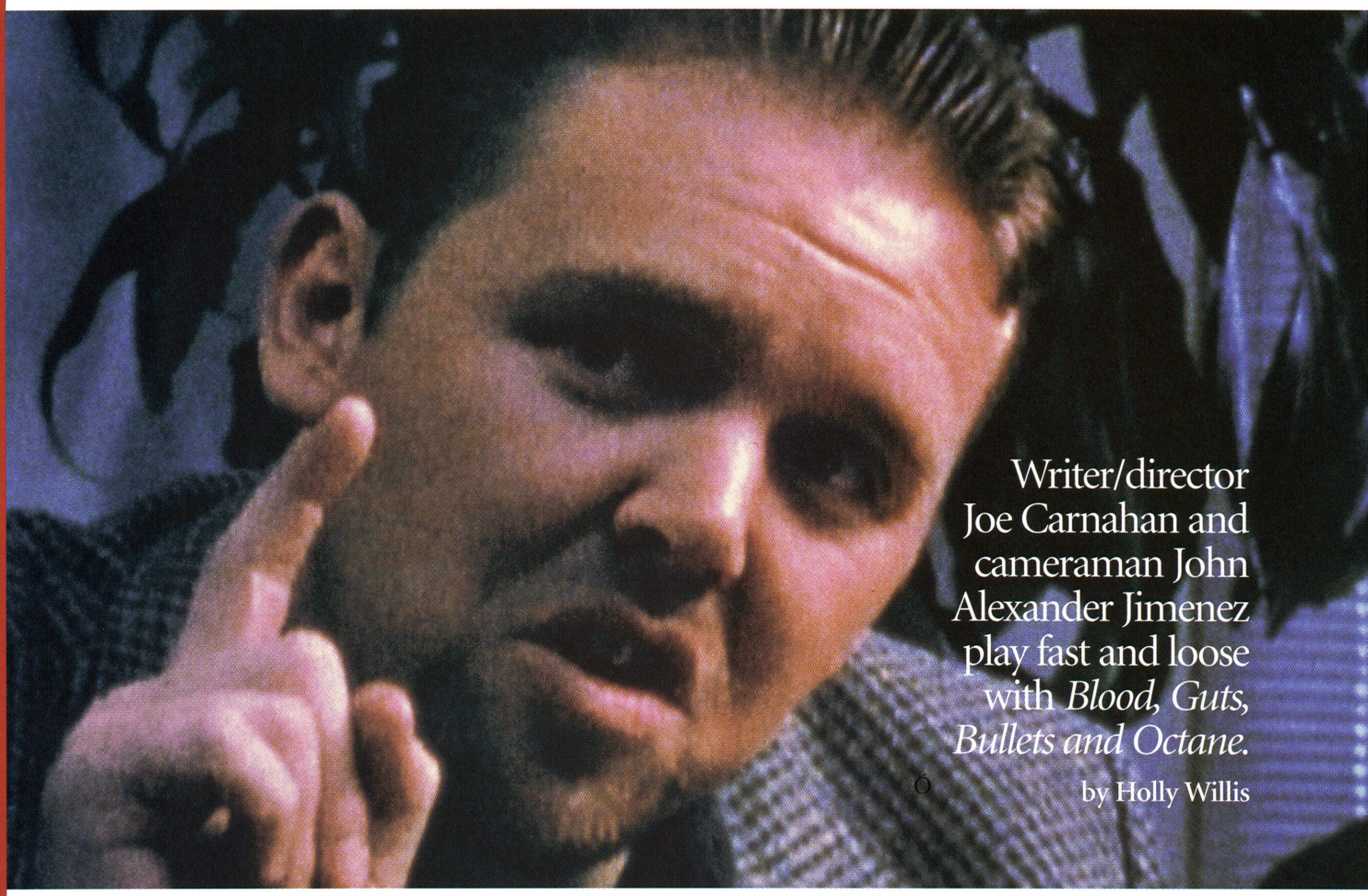
light with this weird red gave us a strange sheen off the satin."

Koch shot *Last Night* on Kodak's Vision 250D 5246 stock. His deliberately overlit negative was pull-processed two-thirds of a stop in the lab and then underdeveloped slightly to help lower contrast and color saturation. To produce a dense negative with a suppressed grain structure that would allow for greater flexibility, he pushed his photography by one stop and then went over by an additional two-thirds — exposing mostly at a T2 or T2.8. "If we had to reach in for shadow detail, it was there," he says. Koch wielded an Arriflex BL-4, employing 18-135mm Zeiss Super-speed prime lenses, as well as a 17-102mm T2.8 Angenieux zoom. Since McKellar is not a fan of short focal lengths, the filmmakers worked mainly within the 18-85mm range. "He thought it looked rather gimmicky as soon as he started sensing distortion from wide lenses," Koch notes. Little filtration was utilized, except for some Tiffen low-con filters that slightly raised black tones in exterior scenes.

The climactic sequence of *Last Night* cuts among the various characters — each in their respective settings — during the countdown to annihilation, and the filmmakers sought a dramatic visual effect that was attainable on a tight budget. They eventually decided to flash the various tableaus into frames of total white. The final shots linking all of the characters together were executed on a circular dolly track. Each specific shot eventually comes to rest on a strategically placed light source — a 4K Par or Xenon — or on a mirror or window reflecting the source. "We would get this flare-out, frequently coming from between characters, who were hugging and kissing," notes Koch. "Sometimes, [the light source] would have to be flagged and covered so you wouldn't see it in the shot until just before we needed it. It was amazing how much light it took. While looking through the viewfinder, I had to close my eyes at the moment it happened."

These white-outs come off in varying degrees, depending on the geometry and nature of the shot in question. For those that did not flare long enough in camera, Koch got an assist from the lab technicians at Film Effects, who "expanded [the flare] for maybe 6 to 18 frames and sort of burned the frame out." In the resulting succession of blinding flashes, mankind is quietly snuffed out — an apt finale to a film that presents a global catastrophy in human scale. ■





Writer/director Joe Carnahan and cameraman John Alexander Jimenez play fast and loose with *Blood, Guts, Bullets and Octane.*

by Holly Willis

Opportunists With Attitude

I'm a shameless opportunist," admits writer-director Joe Carnahan, who quite unabashedly exploited every potential opening to make his first feature, the bombastic and frequently hilarious *Blood, Guts, Bullets and Octane.* Boasting a ridiculously small budget of $7,300, this 16mm film was inspired by some other high-profile, low-budget indies — namely, Robert Rodriguez's *El Mariachi* and Quentin Tarantino's *Reservoir Dogs* (see *AC* Nov. '92). Carnahan, however, was well aware that in following the path blazed by those highly regarded cult films, he had to offer a novel twist. "I wanted to do something that was intentionally derivative and familiar," he says. "But I also wanted to parody that familiar genre and come around in the end to something completely unexpected that would give the film meaning [and elevate it beyond] just a derivative parody."

These grand aspirations seem all the more lofty given that Carnahan started shooting with only the first scene written. The script evolved weekly — almost in serial form — as



Sid (played by writer/director Joe Carnahan) is a fast-talking, down-on-his-luck used-car salesman. Shot on 16mm short-ends, *Blood, Guts, Bullets and Octane* turns its low-budget aesthetic into an advantage.

Carnahan wrote each installment just prior to its production. Even though the film was written on the fly, the piecemeal screenplay became each day's stabilizing factor in a shoot that was chaotic at best. "I looked at the film as a 15-round prizefight," Carnahan offers. "You have to take your shots where you can, and I knew that the first round and the last round would belong to me. The first round was the script, which I could completely control, and the last round was postproduction, which I also could control. But everything in the middle was subject to all kinds of factors — the whims of nature, crew members showing up late, actors not knowing their lines, locations falling through, dirt in the film gate and so on. All of those things can screw you up."

Blood, Guts, Bullets and Octane is about Sid and Bob, two fast-talking, down-on-their-luck used-car salesmen, and their fateful acquisition of a 1963 Pontiac LeMans with a very bloody past. In his role as Sid, Carnahan tosses off the witty, well-written lines with a staccato, machine-gun delivery, while Dan Leis, as Bob, simmers in a stew of anxiety about the pair's dubious future, which is tied to the promise of a quarter of a million dollars that may or may not materialize if they manage to babysit the car for just 48 hours.

To carry off the camerawork, Carnahan called on his friend John Alexander Jimenez, a cinematographer who happens to own an old Eclair. The director had met Jimenez after seeing, and loving, his short film *A Little Off the Side*. He also appreciated Jimenez's mix of talents. "John is a very skilled director of photography," says Carnahan. "He is incredibly proficient with the type of run-and-gun, off-the-shoulder shooting that made up most of the film. But he can also slow things down and take the time to light and frame very precisely."

Blood, Guts, Bullets and Octane is a rapid-running story with violent plot twists and great surprises; it was shot in a brisk manner that recalled Jimenez and Carnahan's experiences making 30-second news promos. "The style of the spots came from co-producer Kevin Hale," explains Carnahan. "We did those 30-second spots with an unrelenting pace, and that trial-by-fire mode determined the whole idea for the film." He also admits that there was a bit of an ulterior motive in the picture's swift pace. "We wanted to make the film evasive to the critical eye," he says. "It's really engaging, and the pace is such that it's hard to slow down and wonder what's going on. I felt that if the script and dialogue were good enough, that kind of pacing would work."

Ironically, Carnahan and Jimenez had to adopt a relaxed attitude about the film's visuals, an especially difficult undertaking for a cinematographer accustomed to striving for beautiful imagery. "I'm used to having things be much more controlled, and Joe is the opposite," says Jimenez. "But I've adopted some of that [impromptu] style because it does add spontaneity — it's a cool approach, especially for the kind of genre that we were dealing with on this picture. Yes, you take a risk, but you get stilted material when you

Opportunists With Attitude



Used-car sharks Sid and Bob (Dan Leis) angle in for the kill.

control the picture or the actors too much. Usually, we only shot one take; we also didn't have permits, and there wasn't much planning. Since Joe would write the next scenes as we went along, I couldn't see what we'd be shooting until the day of the shoot. I might know that we were going to be shooting inside, but I didn't know where, or how many people there would be. When you bring everything to the edge, you get interesting things — sometimes you get gems, sometimes you don't."

The picture was shot in and around Sacramento, California, on weekends over the course of six months, starting in the summer of 1996. The basic motto adopted by Carnahan and Jimenez is one embraced by all low-budget filmmakers: turn your liabilities into assets. Thus, when one considers the stereotypical image of a profusely sweating, sleazy used-car salesmen, even the extremely hot, summer sun can be seen in a positive light — Carnahan's sunburn contributed to the movie's wild color palette.

Another factor that many might have taken as a liability was the hodgepodge assortment of film stock Carnahan carted to the shoot each week. "I would show up at the set and ask what we were shooting with," says Jimenez. "He'd hand me half a roll of [Kodak's 50 ASA EXR] 7245, three-quarters of a roll of something else — bits and piece of everything — and then say, 'Okay, today we're going to shoot 15 pages of dialogue.'" Although the film was captured on a mix of short-ends, Jimenez did try to maintain a sense of uniformity. "For the outside shots, I'd keep using 7245. Even though it was bits and pieces from different cans and different times, I tried to keep it as consistent as I could," he says. Interiors were shot on the 500 ASA EXR 7298. Notes Carnahan, "The 45 is pretty much the vanilla [emulsion] of the Kodak line — their basic exterior stock — but it's got incredible latitude. On some scenes, we were overexposed by more than a stop — some of our exteriors were completely blown out — but it came out pretty well. Again, with the interiors and the 7298, there was a lot of latitude, and we also got very dense blacks, which I like."

"Since Joe would write the next scenes as we went along, I couldn't see what we'd be shooting until the day of the shoot."

— cinematographer John Alexander Jimenez

Jimenez, who usually used a Zeiss 10-100mm zoom lens, enjoyed shooting with his Eclair. "It's a very clean camera," he says. "I've used other 16mm cameras, because I shoot a lot of news promotions and commercials on film, sometimes in 35mm and sometimes in 16mm, and I was really blown away that the camera's images looked so good. Even at the transfer house, a lot of times people would ask if our footage had been shot with an Arri."

One of the Eclair's drawbacks, however, is its weight. To maintain a flexible, fast-paced production, Carnahan and Jimenez knew that much of the film would have to be shot handheld, working that way with an Eclair can be exhausting. "It's an awkward camera to shoot handheld with, because of the weight distribution," explains Jimenez. "It's really front-heavy, which makes it hard to hold for a long time. The script had long scenes of dialogue, so it got to be very tiring. I just muscled through those long takes."

Due to the film's frantic production pace, the cinematographer's lighting kit had to be minimal. Says Jimenez, "We had a Lowel kit and some reflectors. We did spend some time working on the lighting for a couple of interior shots, but for the most part, we were outside using silks and reflectors."

Carnahan and Jimenez didn't limit their own creativity, however. In one scene set in a bar, Sid tries to convince Bob to see the lucrative possibilities of a scam. To illustrate each character's philosophical stance, the two characters are highlighted with different-colored fixtures. "We went with a teal edge light with tungsten fill and a red background," says Jimenez. "It's totally bizarre, but it looks great. Everything on the edges falls into black, and the smoke is backlit. Sid is in this teal green [light] all the way through the scene, with an edge of flesh color. When we cut to Bob, though, he is completely flesh-

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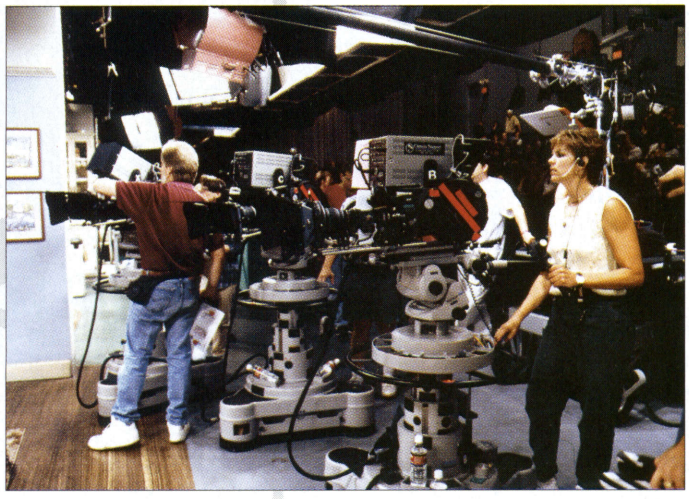


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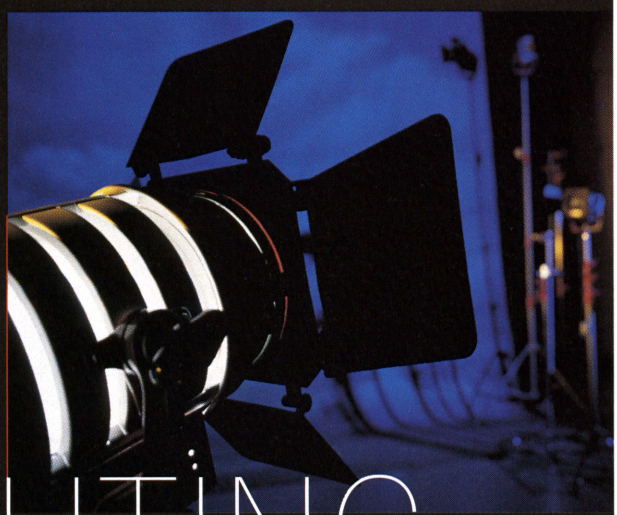


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colored. He's having second thoughts, because he's still in reality. What ends up happening is that Sid takes Bob from the natural light into the red, and the lighting ends up supporting the dialogue and what's happening in the scene."

Carnahan has his own take on this confrontation. "It's in keeping with the whole parody idea," he says. "I think of it as my homage to *Glengarry Glen Ross* [shot by Juan Ruiz-Anchía, ASC, whose most recent film, *The Corruptor,* is also covered in this issue, beginning on page 78]. I made a conscious effort to light it like the Chinese-restaurant scene in that picture."

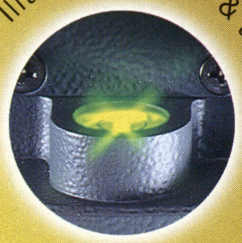
The director's other favorite sequence is a dialogue-heavy scene set in a projector room. "I'm really proud of the way that sequence came out," says Carnahan. "It was a very dark room. We had a smoke machine, a 1K blasting down from above, some fill lights, and the projector. We didn't do anything with the projector itself; we didn't even put a slide in it to blast light on the actor. The scene took six hours to shoot, which isn't a long time, but it comprises five minutes of the film. A lot of times, people strive too much for a particular look — an *X-Files* look, for example — without working with the material itself. With my film, I wanted it to be the opposite; I didn't want the form to dictate the content."

If the images in *Blood, Guts, Bullets and Octane* don't always exhibit a perfect polish, exhilarating acting and cutting help to propel the film to its completely unexpected conclusion. While both filmmakers express some regret that they didn't have enough time or funds to make the movie more carefully — particularly now that it's enjoying a full-fledged theatrical release — they recognize that they did well to heed the old adage about turning liabilities into assets. ■

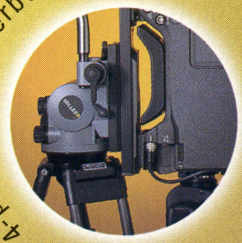
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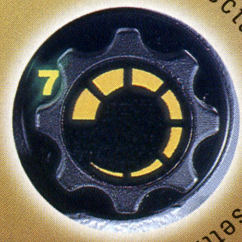
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More Trouble in Little China

With *The Corruptor*, cinematographer Juan Ruiz-Anchía, ASC, AEC and director James Foley create a crime film that is as visually active as it is action-packed.

by Eric Rudolph

Photography by Kerry Hayes



NYPD officer Nick Chen (Chow Yun-Fat) takes aim at some gun-toting punks. Projected venetian-blind patterns and color washes were often used to break up backgrounds.

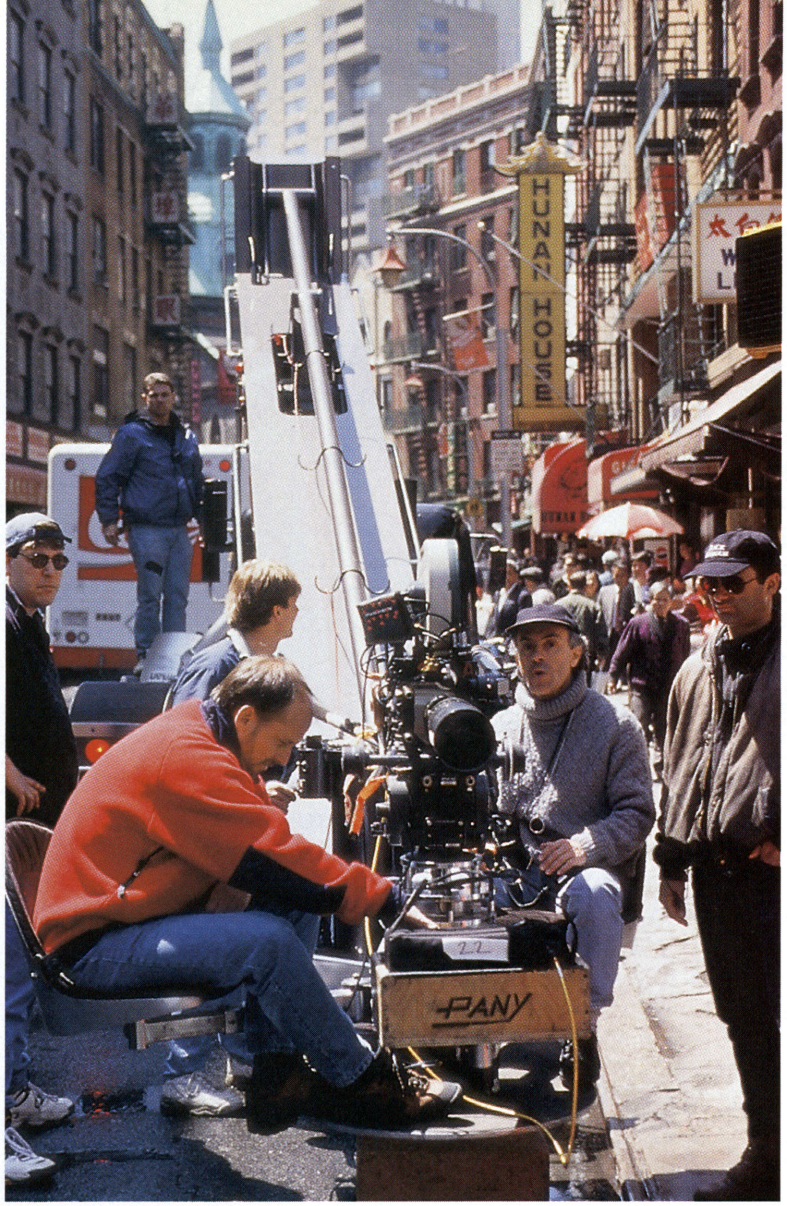
Following a spectacularly explosive gang attack on a local businessman, tensions are running high within an elite all-Asian police unit working in New York City's Chinatown. When fresh-faced Irish-American detective Danny Wallace (Mark Wahlberg) joins the squad, the internal strife escalates even further. The much-decorated leader of the unit, Nick Chen (Hong Kong action-film superstar Chow Yun-Fat), and his team are highly suspicious of their new comrade, whom they openly deride as a white man with a bad case of "yellow fever" — a trendy obsession with all things Asian.

Crime and savage violence are everywhere in *The Corruptor*, and the self-assured Chen navigates his treacherous ghetto turf with astonishing ease. While uncomfortable with his unlikely new charge, Chen shows Wallace the ropes — including the careful maintenance of his suspiciously chummy relationship with a powerful local businessman, Henry Lee (Ric Young).

Local gang rivalries continue to escalate, and as the depth of Chen's inappropriate involvement with Lee becomes more and more evident, Wallace begins to realize just how double-dealing his superior may be. As a deadly confrontation looms, Chen's ideas about Wallace also shift, and he begins to suspect that his partner may not be the earnest rookie he seems.

While this story has many familiar genre elements, the visual world of director James Foley's new film is remarkably unlike any "good guys versus bad guys" universe recently seen on mainstream American movie screens. This is evident early on, when Wallace first enters the offices of Chen's police unit. Daylight streaks through the windows, piercing the dark, dingy confines with thick, powerful, slanted beams of light that are four to five stops overexposed. These white shafts do not brighten the room, however; rather, they stand in stark contrast to the dark, dreary and shadowy surroundings.

Adding to the dramatic contrast of this introductory mise-en-scène, Wallace's face is sharply cut with lines of shadow and light. This schema runs throughout most of *The Corruptor*, and these contrasting lighting effects and face-obscuring patterns symbolize the sharp divi-



Director of photography Juan Ruiz-Anchía (in cap, seated at camera) plots a crane shot with his crew while working in New York's Chinatown. *The Corruptor* marks his fourth collaboration with director James Foley.

sions between the white hats and the black hats.

For director of photography Juan Ruiz-Anchía ASC, AEC, these unusual images are completely in line with the story being told. "The lead characters are mostly in their own, very different worlds, and in continually tense situations that are also constantly changing," he notes. "The look of the film had to reflect these anxious, unsettled states. Our visual style is more driven by the internal worlds of these characters than by the look of the real, outside world."

Anchía and Foley had previously collaborated on the brooding drama *At Close Range,* the brilliant screen adaptation of David Mamet's *Glengarry Glen Ross,* and the Depression-set drama *Two Bits,* while the accomplished Spanish cameraman's other credits include *Maria's Lovers, House of Games, Liebestraum, Dying Young* (see *AC* Aug. 1991), *A Far Off Place* (*AC* May '93) *The Jungle Book* and *Lorca.* In 1991, Anchia earned the Goya Award for Best Cinematography for his work on *Mararia.* (The Goyas are the Spanish equivalent to the Academy Awards.)

Resuming their relationship for *The Corruptor,* Anchía and Foley added another, somewhat less story-driven element to their visual approach — a sense of near-anarchy that lends the film a distinctive, chaotic energy. "We set out to quite deliberately distort the correctness of conventional cinematography," says Anchía, who did so via turbulent camera movements, snap zooms, the aggressive use of color, mixed color temperatures, and other techniques. "The screenplay offered us the opportunity to express the uncertainty and wildness of this criminal world, and James and I decided to exploit these possibilities to the fullest."

Foley and Anchía were also motivated by a mutual desire to return to a more adventurous style of filmmaking. "Directing feature films is a strenuous exercise," Foley acknowledges. "You're getting up at five in the morning and going at it for 12 or more hours, day after day. It's physically exhausting, and it's tempting to make the safe, conservative choices to get through the day more easily. However, over the course of several films, I've learned that the threat to good filmmaking is not the danger of getting out of control; the threat to creativity is to be too much in control."

Foley believes the high-risk nature of mainstream filmmaking pushes creative people toward the safe center. "There is an unconscious tendency toward the center and tremendous pressure to do things the correct way," he says. "You're expected to shoot the master and then the close-up, so everyone will be happy with you. Once in a while, we'd get a call from the producers of *The Corruptor* after they'd seen dailies, and they'd ask, 'Where's the close-up?' Sometimes, my response was, 'Who says there is one?' Fortunately, despite occasional questions of that sort, [our distributor,] New Line Cinema, was very supportive of our unorthodox approach."

Foley, who went through New York University's film production program in the mid-'70s, looked back to those seat-of-the-pants filmmaking days for ideas that would enliven the visual landscape of *The Corruptor.* "We imagined that we were back in film school and starting over," he explains. "This came partially out of my desire to reinvent

More Trouble in Little China



Top: Chen makes a deal with notorious businessman Henry Lee (Ric Young). Throughout the picture, shafts of light, often four or five stops above key, frequently stab through inky interiors. Bottom: Danny Wallace (Mark Wahlberg), is the rookie in an otherwise all-Asian anti-gang unit. Anchía commonly used sidelight and shadows to suggest the character's possible duplicity.

myself as a filmmaker; I was getting kind of stodgy and had been working with the camera in a formalistic way. On *The Corruptor*, we tended to be a little crazy with the camera; we tried to avoid being locked down by the weight of the Panaflex, and Juan took off with that approach and pushed it.

"For example, we would take an establishing shot of the police station, whip around to the other side of the street to find Chow Yun-Fat, and then whip around again to find another actor. That's the type of thing that most people stop doing once they leave film school — just letting the camera go where it wants to go, instead of where it's *supposed* to go. Using that approach on a feature film was exhilarating."

Foley's general strategy on any film is to try not to let planning get in the way of spontaneity. He says, "When I'm asked during preproduction what the film will look like, I'll often say, 'I have no idea. I'll let you know when we've done it.' Much of the influence on the visual style ends up coming from the interaction of the locations and the production design. To work that way, you need to have already made a couple of films, so the editorial chessboard is ingrained in your head. It also helps to work with someone like Juan Anchía, who happens to play that chessboard very well and makes it easy to improvise."



The director, cinematographer and production designer David Brisbin came to one initial agreement about their approach to *The Corruptor*'s genre material. Foley relates, "We decided early on that colors and light should be active instead of passive elements on this film. So we used paint and light, or pure light with the source in the frame, to help the images pop off the screen." As an example, the director cites a scene set in a police office, where there is a bright-blue fluorescent light running horizontally on the wall behind the desk of a police official. "There is absolutely no logic to that light being there," Foley admits. "However, it lifted the scene visually and intensified the image. If you're making a feature, you might as well include something you won't see on television." The filmmaker adds that he is gratified that many viewers have said that they did not even notice the oddly placed fixture. "That's good, because the scene is not about a blue fluorescent light," he adds.

Despite the extreme camera movements and unexpected use of zooms in *The Corruptor,* which seem to echo the approach of some Asian filmmakers, Foley and Anchía say they were not influenced by the energetic and colorful cinematography of Hong Kong crime films, such as director John Woo's *A Better Tomorrow* and *The Killer*, both of which also starred Chow Yun-Fat. The filmmakers maintain that *The Corruptor*'s unusual visual style resulted instead from their script's story and the desire to shake up their usual working methods. "Don't tell Yun-Fat, but I've seen precious little in the way of Hong Kong films," Foley admits. "I suppose it's natural to think that those films influenced us,

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given Yun-Fat and the material, but it's not the case."

In one sequence, the unusual use of two subsequent quick-zoom shots on the face of a prostrate, badly injured lead character resulted from Foley's wish to use every moving-camera tool available. "Many cinematographers won't even order a zoom lens, or they'll only use it at fixed lengths," says the director. "When I was in film school, if you used a zoom shot you were stigmatized as a 'TV director.' I told Juan that I wanted to use zooms on this film, thinking he would hate the idea, but he said 'Great!' It was amazing how much that changed things. The possibilities of camera movement are intensified many times when you can do things like combining quick pans and zooms. For the scene in question, where one of the leads is shot down, the use of two zoom shots in a row just felt right emotionally."

Once this frenetic style was set, Foley never worried that he and Anchía would takes things too far. "We wanted the images in *The Corruptor* to be radical," he insists. "We started out by asking ourselves, 'What if we push this further than we're supposed to?' That philosophy became automatic after a while. Once we got going, we never worried about going too far."

With Foley and Anchía bent on going wild, production designer David Brisbin served as a calming influence. "The visual end of making a film is always at least a three-way street," Foley notes, referring to the director/cinematographer/production designer triumvirate. "David has a very naturalistic approach to production design. It took a great deal of convincing for him to be enthusiastic about this idea. I sometimes felt that he must have taken his only solace in thinking, 'Well, Foley may be crazy, but I know that Juan Anchía is not.'"

Brisbin may have had good reason to harbor suspicious thoughts about his collaborators' sanity; in many shots, Foley and Anchía repeatedly broke a basic rule of cinematography by boldly mixing light that was several stops over and several stops under a hypothetical "correct exposure." This method is used most notably in a close-up on the face of an FBI agent toward the end of the film. Taking traditional, half-shadowed facial lighting to its extreme, Anchía placed half the man's face in almost impenetrable shadow, while illuminating the other half with blown-out window light that is many stops overexposed. The look is unsettling and striking in its boldness, yet effectively communicates the suddenly unavoidable differences between the two lead characters, as well as the idea that the FBI agent, like virtually all of the characters, may be either a good guy or a very bad guy.

"If you shoot one scene without much visual style and then another and another, it accumulates and weakens your visual schematic."

— cinematographer Juan Ruiz-Anchiá, ASC, AEC

Anchía took delight in devising such an unconventional close-up. "I learned from a well-known actor that the face is like a landscape; there are mountains, valleys and curves," he relates. "One face's response to light is always different from another's. The approach to lighting a face can vary infinitely, and one's choice depends on the nature of the film, the scene and the actor. In this scene, the two characters' very different worlds are confronting each other, and it required a very unusual, highly dramatic approach to lighting."

The use of deep shadows contrasting with strongly overexposed light also emphasizes the tension in a key scene between Wallace and his drunken, dissolute father, a former cop with a long criminal history of his own. The two men face off in Wallace's apartment, where his father has shown up unannounced. Their confrontation comes to a boil in a shot taken from over Wallace's shoulder; the son stands in deep shadow, while the father's face is bathed in strongly overexposed window light. "Again, this lighting is about the two men being in such separate worlds," Anchía explains. "It's an extreme effect, like cutting from an extreme wide shot to a tight close-up." The scene was simply lit with a 20K tungsten light outside the window of the studio set, with fill provided by reflectors.

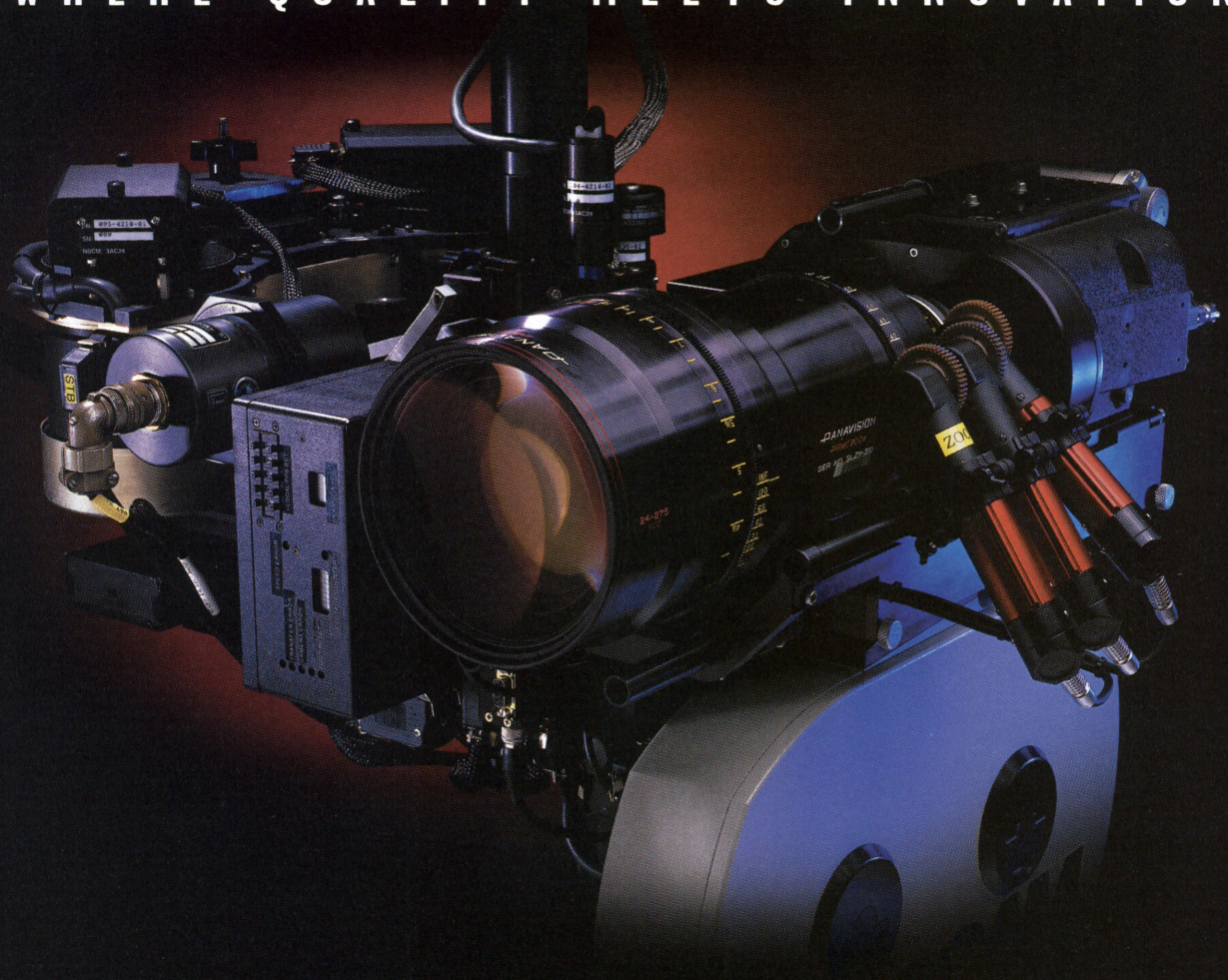
Shadow patterns ostensibly cast by venetian blinds make frequent appearances in *The Corruptor*, yet the filmmakers managed to breathe new life into this clichéd technique by taking it to new extremes. Anchía often used 200W Leko HMIs to project patterns of blinds onto faces and backgrounds. "These projected effects were yet another a way for us to escape the correctness of normal cinematography," the cameraman says. "The projections also met our desire to escape from beautiful light and to obscure faces, but we mostly used the various patterns to keep the tension going in scenes where the story had less inherent tension."

Those backgrounds in *The Corruptor* that were not enhanced with projected patterns received a different kind of special attention. As he had on *Glengarry Glen Ross*, Anchía occasionally enlivened unspectacular settings by deploying frosted translucent panels bathed with colored light. "David Brisbin, James and I tried to push certain key colors for dramatic effect throughout the film — yellow, red, green, blue and black — which we agreed were the colors one sees most often in New

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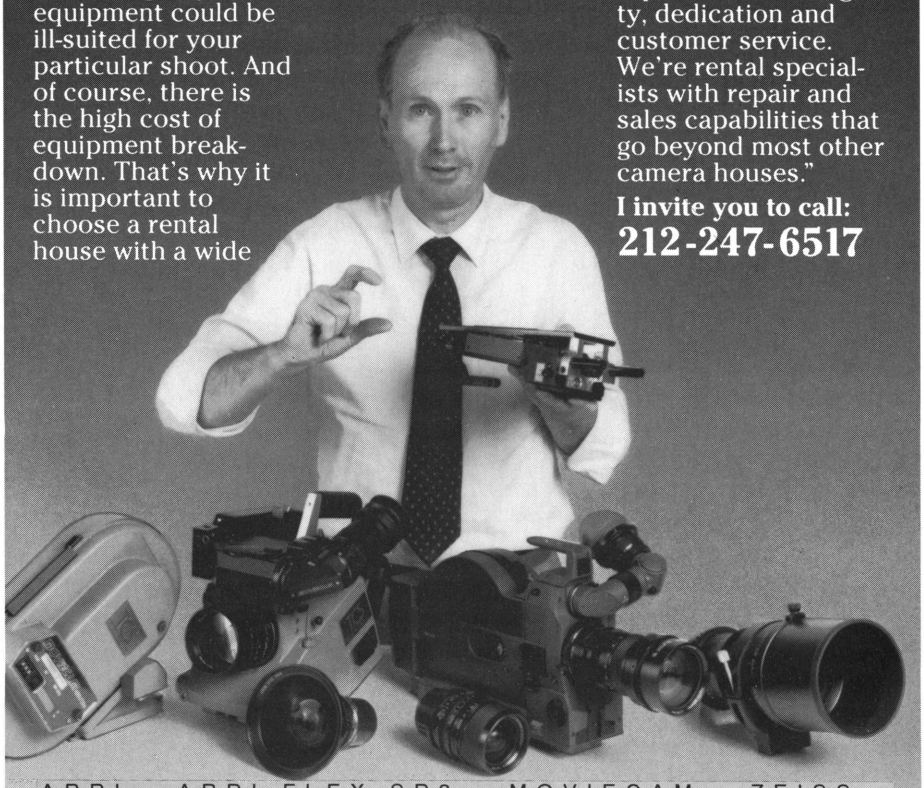
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York's Chinatown," says Anchía. "Those colors became key elements of our overall look. I worked closely with David to include those colors in our locations. However, when you're working in certain places, such as an office, there is often nothing very visually interesting, and not much you can do to help. If you shoot one scene without much visual style and then another and another, it accumulates and weakens your visual schematic. I feel that you have to stay consistent with your approach, so we occasionally brought in translucent plastic panels, surrounded the actors with them and lit them with one or more of our theme colors. We were pushing the reality [of the Chinatown look] to the maximum."

This technique, most notable in a scene that occurs within businessman/crime lord Henry Lee's office, makes for lively, almost expressionistic interior landscapes. Lee, a sweet-talking bad guy who finally reveals his true colors, sits at his desk, surrounded by translucent panels bathed in rich yellow and red hues that suggest his seductive yet dangerous nature.

One of Anchía's most daring and unusual images appears when Wallace uses a pay phone to warn an informer that he is in great danger. Wallace's face is bathed in blue and white light, the background is deep red, and there is a completely unexplained, slanting stripe of green light playing across the lower half of his face. "The location, a fast-food joint, gave us the excuse for this multicolored lighting," says Anchía, who adds that the scene is more about the fact that Wallace's situation has begun to unravel. To reflect the detective's downward spiral, the cinematographer wanted the moment to have a distinctly confused feeling.

Occasionally, this multicolored approach was dropped for a monochromatic palette. One recurring location, a Chinatown gambling hall, is always awash in a strong yellow-

orange light. Says Anchía, "I liked the idea of the whole room being bathed in the same color. We have bar scenes where we used a lot of green, red and yellow together in the backgrounds. In contrast, I wanted a chance to use yellow-orange all by itself. It wasn't motivated by anything particular in the script; it was more an exploration of the concept of colorization, and a case of finding a location where this unusual wash of color might be believable." The approach worked for the gambling hall because the scene's general focus was the gaming action taking place on the tables. Anchía lit the room with Maxi-Brutes aimed through the windows, which were gelled primarily with Lee #105 orange. The location's built-in fluorescent light tubes were also wrapped with gel of a similar hue.

Anchía usually lights interiors through the windows and tries to use little or no additional lighting inside. "We direct the fill with bounce cards or silver or gold reflectors, depending on the hard or soft light quality we're after," he explains. "Occasionally, I've had to use an additional instrument or two, but I always try to avoid it. I feel that window light should stay as pure as possible."

As the film reaches its denouement, Anchía and Foley shifted from their expressive color palette to a more monochromatic scheme. Anchía notes that "the change is triggered by the death of one of the leads," whose energetic, colorful presence buoys most of the film. Climactic scenes set in a hospital have an overexposed effect, but little color except for red venetian blinds on the window. Anchía explains, "We let strong light bounce off the hard, shiny floor and create lens flare" to emphasize the emotional intensity of the scene. "From there, we lose even more color, until we get to the funeral sequence, which is essentially all in blue," befitting a policeman's burial.

Yet another offbeat technique utilized for *The Corruptor* was the use of Dataflash strobe lights, which were employed throughout the film, especially for night exteriors. "We used flashing lights simply to create more tension, to distort the moment for most night exteriors to one degree or another, in combination with regular lighting and HMIs, which we panned around," Anchía explains.

Most of the film was shot on Kodak's 500 ASA EXR 5298, since Kodak had not yet made the 500T Vision stock widely available when *The Corruptor* began shooting. However, the 5298 not only helped speed up production and keep lighting rental costs affordable, but also allowed the Anchía to avoid a "muddy, soft, wide-open look." Most of the film was shot at around a T4 with Platinum Panaflex, Panaflex Lightweight and Aaton 35-III cameras fitted with Primo prime and zoom lenses. Two Primo zooms, the 4:1 17.5-75mm T2.3 and the 11:1 24-275mm T2.8, were used extensively with the Panavision cameras, while Panavision's lightweight 27-68mm T2.8 zoom was used with the Aaton for some of the film's energetic handheld work.

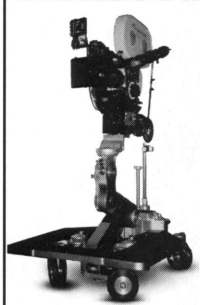
The filmmakers chose the 2.35:1 Super 35 format over anamorphic primarily to gain greater depth of field, which was crucial due to the large number of long-lens shots in the film. "I've shot a lot of films in anamorphic, but I'm pleased with the image quality that can now be obtained with Super 35," Anchía says.

The Corruptor received some unusual treatment during the printing stage. "We did extensive tests with bleach-bypass processes with Chris Severin at DeLuxe in Toronto," says Anchía, who felt the deepened blacks and desaturated colors created by the process were too extreme. "When we tested straight printing on the new Vision Premier 2393 print stock, however, I saw exactly what I wanted — superb blacks and whiter whites. The 2393 stock (see New Products Nov. '98) costs about 10 percent

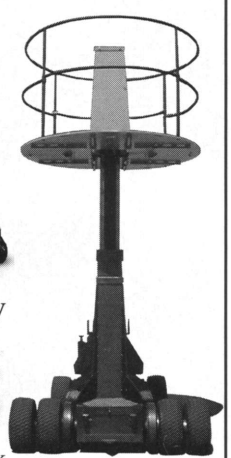
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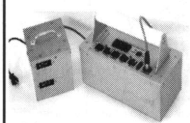
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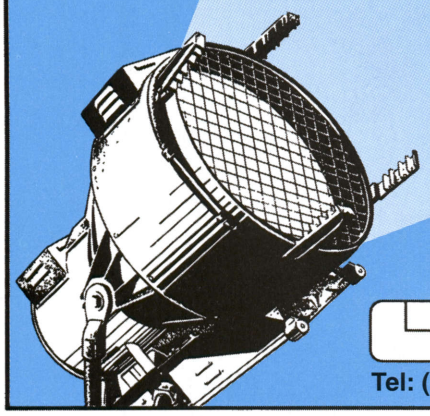


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more than standard release stocks, though, so it was only financially feasible to use it for our 200 or so initial 'show' prints."

In an effort to keep costs down, New Line Cinema primarily makes its release prints on Fuji stocks. Anchía was therefore compelled to experiment a bit in the lab in order to successfully blend his Eastman Kodak camera original with the Fuji print stock for the general release prints. The cameraman says that he and Beverly Wood of DeLuxe Laboratories in Hollywood eventually devised a complex yet cost-effective printing strategy that effectively emulates the crisp look of the Vision-printed show reels. Anchía notes, "We made our interpositive on regular Kodak stock, which we slightly underexposed, and our internegative on slightly overdeveloped Fuji stock. We then printed to Fuji release stock, which was exposed and processed normally. These manipulations, coupled with the inherently higher contrast of the Fuji release stock, gave me the rich, contrasty look I was after for the general-release prints."

Despite the unusual nature of the stylized images in *The Corruptor*, timing proceeded in a straightforward manner. "We were simply trying to control what we had," Anchía explains.

The cinematographer further credits his Toronto operator and gaffer, Gilles Corbeil and Bryan Forde, as well as New York gaffer Jerry Blau, with helping to bring the film's turbulent visions to the screen.

Despite the unusual risks taken during the production, Foley knew he was on firm footing with Anchía as his cinematographer. "I've always felt that Juan is the most talented guy I've ever worked with," the director attests. "Neither of us had ever done an action film or anything this visually unorthodox before, but his talents are well-suited to any type of project. I think Juan is a genius." ■


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Of Loss and Hope



Director of photography Stephen Goldblatt, ASC helps bring Jacquelyn Mitchard's compelling bestseller *The Deep End of the Ocean* to the screen.

by Jay Holben

Photography by Zade Rosenthal

Long before *Milwaukee Journal-Sentinel* columnist Jacquelyn Mitchard's first novel, *The Deep End of the Ocean,* hit the bookstores, it arrived in the hands of producer Kate Guinzburg. The compelling and enthralling story — which concerns the Cappadora family, whose 3-year-old son, Ben, vanishes without a trace — struck a deep chord in Guinzburg, and she immediately passed the galleys along to her partner in Via Rosa Produc-

tions, Michelle Pfeiffer. The actress couldn't put the book down, and arrangements were made with Mandalay Pictures president Peter Guber to purchase the rights.

To helm their project, the production team turned to distinguished director Ulu Grosbard, who also found himself deeply moved by the story. Known for being highly selective about the material he chooses to film, Grosbard took to *The Deep End of the Ocean* with a passion. "He had pages and pages of notes about the characters and the script," recalls Guinzburg of their first meeting. "I've never been in a meeting with a director who was as prepared as he was."

Grosbard, a Belgian refugee who fled to Havana in 1942 with his family, earned a B.A. from the University of Chicago and a master's degree from the Yale School of Drama. He did his first work as a theatrical director on such productions as Arthur Miller's *A View From the Bridge,* for which he won an Obie Award; David Mamet's *American Buffalo,* which earned him a Tony nomination; and a Broadway adaptation of the Pulitzer Prize-winning *The Subject Was Roses,* which garnered him another Tony nomination. Grosbard's first foray into film direction was the feature version of the latter play, which was photographed by Jack Priestley, ASC. The director followed his debut with several fascinating films, including *Straight Time* and *True Confessions* (both photographed by Owen Roizman, ASC) and, more recently, *Georgia* (shot by Jan Kiesser, ASC), which earned Grosbard an Independent Spirit Award nomination as Best Director.

For *The Deep End of the Ocean,* Grosbard turned to renowned cinematographer Stephen Goldblatt, ASC to help him bring the project to fruition. "I first met Ulu at the Sundance Institute," the cinematographer recalls. "Every June, Sundance runs a directors' lab for three or four weeks, and they bring in a team of advisors — directors, editors, writers, actors, cinematographers — who consult with new directors on their projects. Both Ulu and I have been on the panels for a number of years, and I got to know him. When this project came up, he asked me to do it."



Opposite: Beth Cappadora (Michelle Pfeiffer) is a loving mother whose son disappears. While cameraman Stephen Goldblatt did not use filtration on the actress, he employed low-contrast Vision 320T 5277 to soften her appearance. Above: Using the Steadicam — operated by Mark Van Loon — for a ballroom sequence, Goldblatt employed lighting balloons floating above to allow the camera to cover the entire room.

A drastic departure from Goldblatt's flamboyant work on such visually striking films as *Outland, The Hunger, The Cotton Club, Lethal Weapon 1 and 2, Batman Forever* (see *AC* July '95) and *Batman and Robin* (*AC* August '97), *The Deep End of the Ocean* has a more subdued look dictated by the tale's narrative arc. The cinematographer remarks, "What really drove me to this project was the story and the chance to work with Ulu. The book was wonderful, and I really wanted to do something narrative. Ulu is an entirely narrative director. He gave me responsibility for the camera-work, while he concentrated primarily on the story, the script and the actors. We formed a very quick collaboration and truly enjoyed each other. His nickname is the 'Diamond Cutter,' which was actually his original profession. He knows his script backwards, forwards and upside-down, but he doesn't want to shoot in a 360-degree circle all the time. He tries to let the camera work within the scene."

Goldblatt was determined to approach *The Deep End of the Ocean* in a very naturalistic manner. "I was a little out of practice with that, but I got it back," the cinematographer jokes. "It was quite a contrast to the stuff I had been doing before, with the *Batman* films and whatnot. Ulu is a fiend for naturalism — in set design, costumes, lighting and cinematography — and it was nice for me to do something so steadfastly simple. Every day was not a discussion of special effects, safety or some other razzmatazz. It was all very traditional. We'd rehearse the scene, and then the script supervisor and I would discuss the staging and block it. After that, the crew would be brought in and we'd work it all out."

Since the picture is principally driven by the actors' performances, Goldblatt strove to use his lighting to accurately reflect the emotional transitions that the characters make

Of Loss and Hope



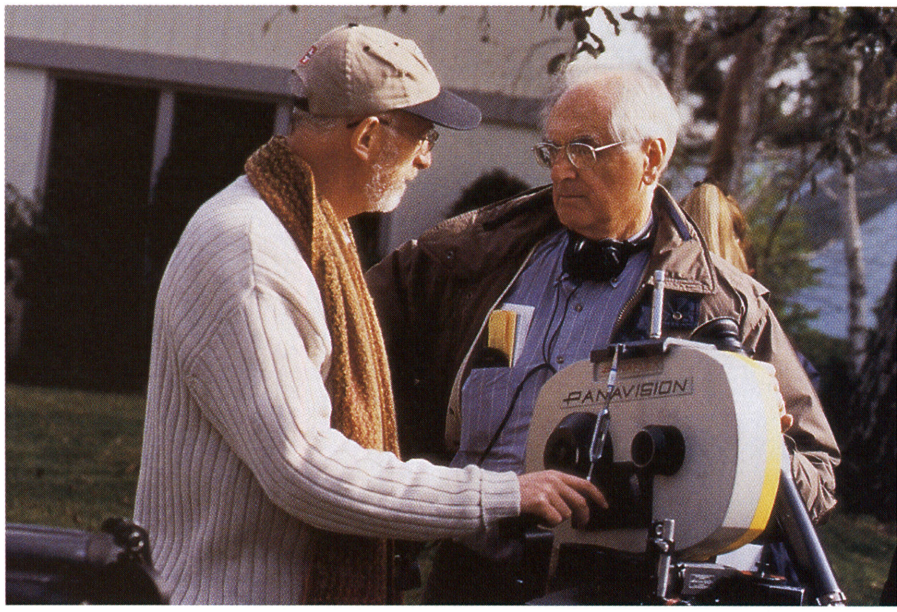
Above: Pat Cappadora (Treat Williams) consoles his wife. Goldblatt (bottom, on left, with director Ulu Grosbard) was determined to approach *The Deep End of the Ocean* in a very naturalistic manner. "I was a little out of practice with that, but I got it back," he jokes. "It was quite a contrast to the material I had been doing before, with the *Batman* films and whatnot. Ulu is a fiend for naturalism — in set design, costumes, lighting and cinematography. It was all very traditional."

throughout the story. "Michelle [Pfeiffer] was an absolute pleasure to work with. She is an amazing actress," the cameraman attests. "Of course, she wants to be in her best light, but she's not vain. When her character, Beth, has been up all night because her son, Vincent [Jonathan Jackson], was arrested for drunk driving and nearly killed, she looks wrung-out, and she should! There was no pressure from Michelle to 'gild the lily,' and that makes her performance all the more powerful.

"I didn't want to filter Michelle, but I did want to help her a bit, so I worked the film stocks," Goldblatt continues. "I've experimented for the last two years with Kodak's low-contrast negative stock. In its previous incarnation [EXR 5287 200T], before the advent of 77, I really disliked it. It was too flat and grainy, and I just couldn't get on with it. But this time, using [the new 5277 Vision 320T], it really worked. It has a lovely, soft gradation and was my basic choice for daylight interiors at around 250 [ISO]. I found that it gave a very smooth, flattering skin texture which could still be used interchangeably with the other stocks. It wasn't such an obvious difference that it jumped out at you, but it was much nicer than the 5293 [EXR 200T] and the 5246 [Vision 250D], which I used in the hotel scenes. More often than not, Kodak's 46 is far too contrasty for me, and I have trouble with the highlights, which just blow [out] in a breath, whereas the 77 holds them beautifully. My night stock was 79, which I'm really used to. I've developed a T2.5 eye for 79; I can just look and see that it's around 21 or 22 footcandles and bang! I don't need to meter it. I got there with 77, too, but the 93 and 46 puzzle me a bit — they don't come naturally, and I've got to work harder to get them to look the way I want them to onscreen."

With these experiences in mind, Goldblatt relied on the Vision 320T as his principal interior stock, using EXR 5245 50D, 5246 Vision 250D and 5279 Vision 500T to round out his palette. He shot the picture with a Panavision Platinum package, mainly employing the 4:1 Primo zoom and a conservative set of Primo primes.

At the beginning of *The Deep End of the Ocean*, Beth takes her three young children along to her 15th high school reunion in Chicago. Shortly after arriving at the hotel, her son Ben disappears into the crowd. In lighting the sequence, Goldblatt and longtime gaffer Les Kovacs decided to take a rather unorthodox tack, employing the relatively new 12'-diameter HMI balloon as a principal light source in the hotel lobby. While covering a large scene in a relatively short period of time, "Stephen surprised me," asserts Kovacs. "We sent up the 12' balloon, and I thought we were going to anchor it and simply use it for the overall ambience in the lobby. All of a sudden, we started dragging





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it down, dollying around with it and using it as a key light, because Stephen loved the way it looked on Michelle."

"For close-ups," adds Goldblatt, "we would drop the line and bring the balloon down, still keeping it 30' or 40' away. Instead of being above, it would be virtually eye-level, and we got this beautiful light that was very quick to work with. The technique provides a very naturalistic look. Then, for reverses, we just pulled the balloon down, moved it over 40', let it float up again and tied it off."

"This was my first experience with the 12-footer," Kovacs continues. "But I own two of the six-footers, and we put those to good use as well. Of course, the 6' 4K balloons are tungsten, so I had some blue skirts made for them to keep everything at 5600°K. Then we had fun with the 12' balloon. For the shot where Michelle walks through the hotel's front door, we covered that with a Steadicam and just dollied the balloon along with it — which is amazing enough, because it's this big 12'-diameter thing, but it worked like a charm."

Although the narrative takes place in Wisconsin and Chicago, all of the principal photography took place on stage and on location in Southern California. Utilizing neighborhoods in the Los Angeles-adjacent towns of Sherman Oaks, Northridge and Pasadena, the production altered existing locations to suit the Midwestern feel they sought. The majority of the film takes place in the Cappadoras' second home in Chicago, which was built on stage at Universal Studios. True to the film's naturalistic environment, all of the sets were built with hard ceilings and realistic set dressing.

During one dramatic moment in the story, Beth becomes convinced that a boy at her front door, who asks to mow the lawn, is actually her long-lost son. Goldblatt used a Steadicam to follow Pfeiffer as she races frantically through her house to retrieve her camera. "That was like a domestic *Das Boot,* because the set was real, with solid ceilings and kids' toys on the floor," he quips, referring to the difficulties that cameraman Jost Vacano, ASC had with the practical submarine sets built for Wolfgang Petersen's famed World War II film. "We wanted to convey the urgency of the moment through the camera movement while still keeping things real, and [Steadicam operator] Mark Van Loon certainly had fun working through the obstacle course of the house. Again, it was always our collective principle of mine that everything should be straight and natural. This film could very easily have become melodramatic, but we all strove to carefully cut back all the time."

"This is a dark film. It could have been very melodramatic, but we chose to step away from that. We didn't execute the material in a dark way; we just kept it as true as we could."

— cinematographer Stephen Goldblatt, ASC

"The approach to lighting the Chicago house was extremely soft," explains Kovacs. "We always designated a sun side and a soft side. For the sun side, we would play a 10K or a 5K through the windows, but for everything else we made good use of bouncing 20Ks off of 20' by 20' muslins, letting them come through the windows."

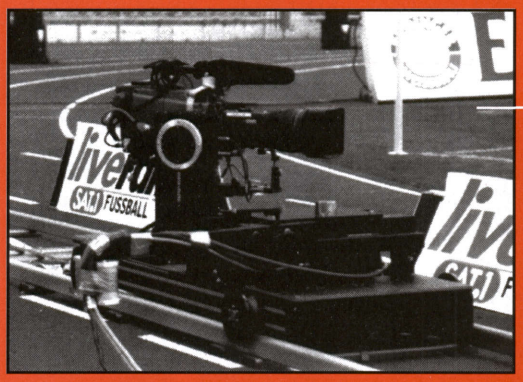
"We played with all of the tricks," Goldblatt confirms with a smile. "For wide shots — or shots with a lot of movement, where we were seeing all over the place — we'd hide Kino Flo tubes behind a raincoat or a bookshelf, just to get a little base fill. We put some light grid on those or painted the walls down where we couldn't cut them — little tricks like that. Once we'd set a wide shot, I liked to take out a wall and place a 20K through two muslins 30' or so away and get this very soft, white light into the room that we would cut closer in to the action to keep it off the walls. That all worked very well. It was a very beautiful, soft source that looked as if it wasn't there at all."

Outside the set walls, production designer Dan Davis hung desaturated photographic backings to simulate the world outdoors. "The monochromatic backings were all quite effective," Goldblatt says. "We kept them a little high-key or overexposed them by just a stop or a half a stop, and they looked quite realistic. In preproduction, we carefully worked out our sightlines so that when we were upstairs, you wouldn't see off the backings. But I learned that you can cheat a lot. You can move the backings around, and no one notices. The backings should never be at the same dead exposure as the interior anyway, so you can get away with a lot of cheating."

The boy at the Cappadoras' front door does turn out to be their long-lost son, Ben (Ryan Merriman). We soon learn that a classmate of Beth's had kidnapped the boy from the hotel lobby in Chicago and kept him for her own. She later married, and her new husband, completely unaware of any wrongdoing, adopted Ben. When the woman committed suicide a few years later, Ben (renamed Sam) was raised by his adopted father. After giving up hope of ever finding Ben, Beth and her husband, Pat (Treat Williams) moved from their Wisconsin home, where Ben had been born, to a new home in

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POINT OF VIEW

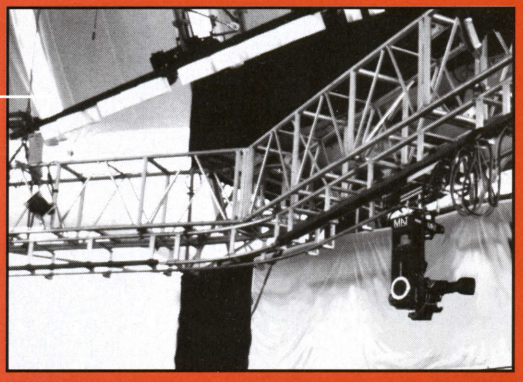


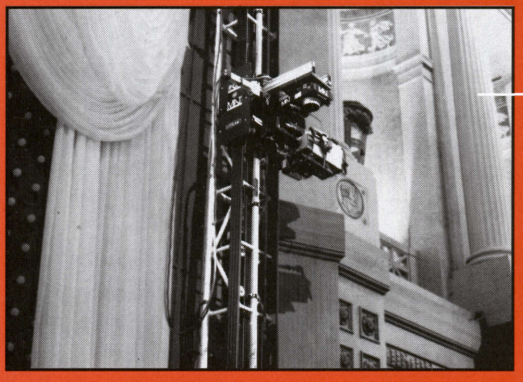
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Of Loss and Hope

Chicago; there, they took up residence just two short blocks from where their missing son was living a completely different life. On a sunny fall day nine years after his disappearance, Ben/Sam knocks on the Cappadoras' door. Once his true identity is discovered, a struggle begins to determine where the boy really belongs.

The strong bond between Ben and his brother, Vincent, manifests itself in their mutual love of basketball. During the course of the film, two pivotal games are played between the siblings that reveal, layer upon layer, a complicated relationship. Both sequences were shot on location outside a house that doubled for the set built at Universal. Says Goldblatt, "I was very interested in the basketball games, which are a big thing in the relationship between the two brothers, and I wanted to shoot them in a fluid way. I was concerned that a Steadicam couldn't make snap moves from one boy to the other as they exchanged dialogue. Both games were staged with an awful lot of dialogue which was absolutely essential to the story. We ended up using a lightweight Moviecam to cut down on the inertia and move the camera that much faster between the boys, the game and the basket."

The second scene on the basketball court takes place late at night, as the two boys play by the light of a streetlamp. Goldblatt continues, "When the location was being scouted and the design phase of the production was underway, I asked for a light source near the driveway, where the basket would be. To facilitate that, we pulled out a modern lamppost and put in an old-fashioned one that lent itself to the design of the neighborhood."

"My first thought on how to attack that sequence," adds Kovacs, "was to accentuate the streetlight by rigging speedrail up into a tree at the end of the driveway and backlighting from there. But once we got there and Ulu started laying out what he'd envisioned, it became apparent that we could get away with sticking an 80' Condor out on the street and arming it in to get our backlight. We put in a 20K real high and soft to emulate the streetlight, and then aimed another 20K into a 20' by 20' muslin bounce in the foreground for fill."

Two considerable location tasks involved a jail hallway and a large church. When Vincent's delinquent behavior gets him arrested for drunk driving, Beth and Pat make their way to the county lock-up to bail him out. There, they discuss their options with detective Candy Bliss (Whoopi Goldberg), the officer who was assigned to Ben's case for

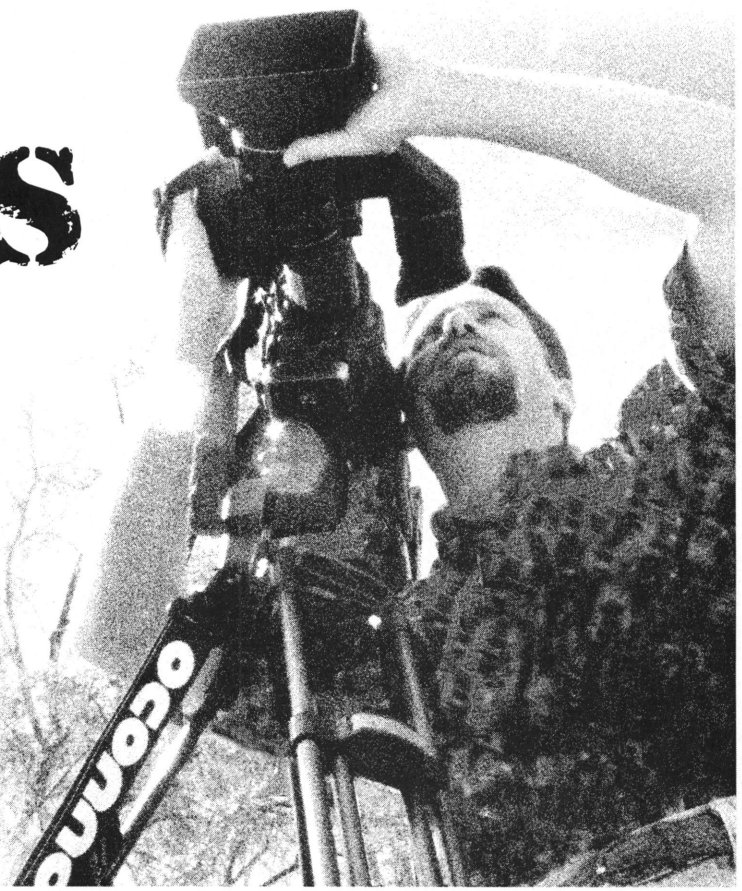
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Gregg Richmond using a DV fluid head and 25L tripod. Photo by Bill Cortez / KUTV 2 News

the nine-year duration. During the walk to the visiting room, the trio trek down a long, narrow hallway lined with windows. "My best boy, Benny McNulty, who's been with me for 15 years, also doubled as the rigging gaffer on this show," explains Kovacs. "Our biggest task was the walk-and-talk in the jail, where we used 16 18Ks coming through the windows. There were about 25 windows in all, but we only went through about three-quarters of them because we wanted the location to have some areas of shadow and contrast. The only additional lighting we did was on a couple of takes where I handheld an LTM 200W HMI with a Chimera and a 30-degree honeycomb, in order to pick out Whoopi and give her a bit of fill. Both Stephen and I like to use the Chimeras, especially with the honeycombs, because they make such a greatly controlled soft source. I could pick out Whoopi with the 200W HMI and not hit Michelle at all.

"The church sequence was kind of tough as well," Kovacs concedes. "After Ben returns, the family attends church one Sunday. We shot in an old Catholic chapel with lots of stained-glass windows. Trying to punch through those and make it look good in wide shots from the altar was a bit of a challenge. Stephen also wanted to be able to go from looking in one direction to the other at the flick of a switch, so we rigged two sets of lighting at one time, with a number of 10Ks and Chimeras for backlights. The church was another location where we got great use out of the balloons. Even though we were punching 14 12K HMIs through the stained-glass windows, we still went with a tungsten balance inside, and it looked fantastic."

"I love to be able to pre-rig, and be as prepared as I can be," says Goldblatt, "but I'm always ready to throw it all away. I'm a very intuitive worker, and I like to think fast on my feet; I really want the rehearsal to drive what we're doing. My guys have gotten used to me calling for something that I've said I'd never need, but I'm never in a panic. I like a really good, comfortable atmosphere. I don't think people can work well, or happily, under some kind of gun — whether it be psychological or physical. I don't like to be under the gun, and I don't like to do it to other people. In a comfortable atmosphere, people are happy. They get up in the morning and they're happy to go to work. That's what this film was like, but unfortunately, it's not something that happens all the time. It could be, however; it just requires desire and people who are really there to work and not just throw their weight around. If every-

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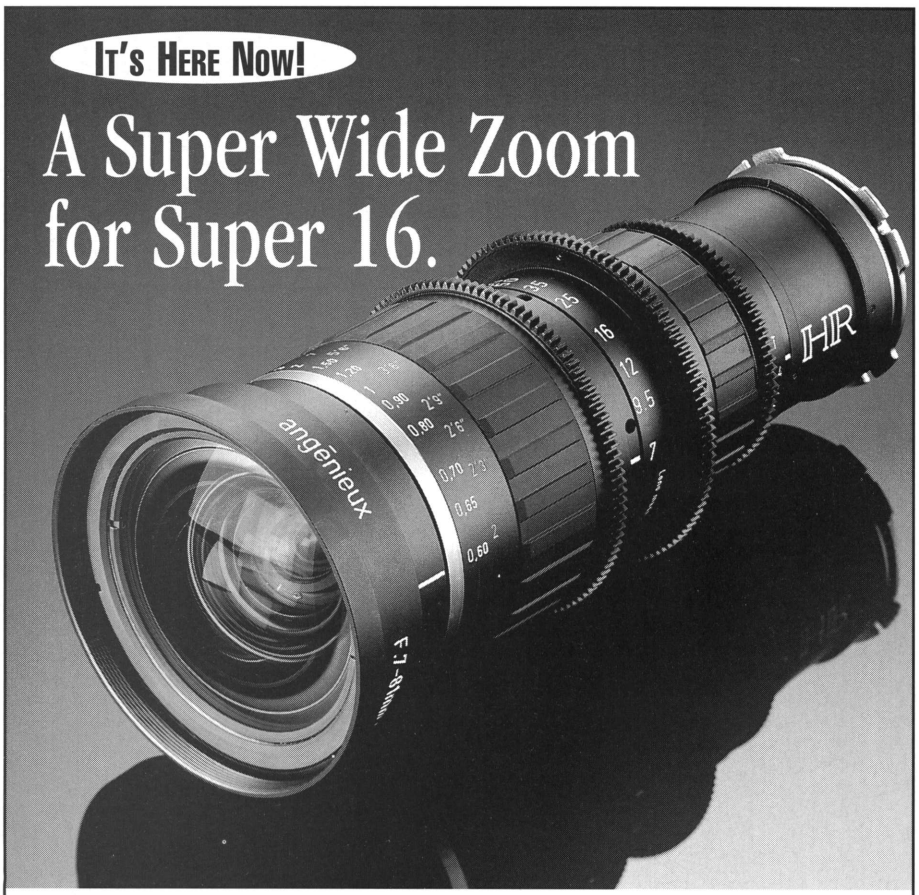
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Of Loss and Hope

thing is driven by the project, everyone can get together in a collaboration. That's what Ulu does — he collaborates. And when he's happy with something, he doesn't tease it to death; it's 'Goodnight, thank you very much!' I'm not saying it was all a big love-fest, of course; we all worked very hard, and we had our differences. It's going to get rough sometimes, given the nature of the work, but it's extraordinary what human beings can do when they work together, and how much fun it can be. On this picture, we truly had a fantastic, comfortable atmosphere that was wonderful to work in.

"This is a dark film," Goldblatt continues. "It could have been very melodramatic, but we chose to step away from that. We didn't execute the material in a dark way; we just kept it as true as we could. I think being driven by the narrative is enough. I wanted to work with more classical sources of lights — to be as truthful in the lighting as we were in the storytelling. This is a film for adults. No one is going to respond to this who has not suffered in some way — in their relationship, in their marriage, or with their kids. I would-not say that it's a pessimistic film — it ends hopefully — but it's mature. There's no golden rainbow.

"I have been so conditioned [by my previous films] to be show-offy, and to use the camera as another character in the film, that I had to concentrate on *not* doing that this time," he concludes. "Self-restraint was the most difficult part of this project. I obviously wanted things to look good, but I didn't want them to look pretty. I feel that I will have succeeded in what I was asked to do — and what I wanted to do personally — if people don't think about the camera. The film is the concern, and the camera is as invisible as possible. That's always a cliché, but it's quite difficult to do well." ■

Industry Leaders Laud ASC's 80th Anniversary

"For 80 years, the American Society of Cinematographers has pushed the art of cinematography to the highest technical and aesthetic levels. And through its publishing wing, editors and other craftspeople have been kept up to date with the state of the art. Editors and cinematographers have always worked hand-in-hand to protect the image and to make the best films possible. We at the American Cinema Editors applaud the American Society of Cinematographers. The ASC benefits everyone who cares about the art of motion pictures."

Mark Goldblatt, President
American Cinema Editors

"Only through the skill of a trained professional cinematographer can an actor's work literally be seen in its best light. Without a skilled artist directing the photography, an actor's work is at great risk. On behalf of the members of the Screen Actors Guild, we congratulate the American Society of Cinematographers on its 80th anniversary, and thank its members for always being there for us."

Richard Masur, President
Screen Actors Guild

"The artistry of the cinematographer provides meaning and context for the transformation of the written word to the intimate visual medium of television. The Academy of Television Arts and Sciences salutes the American Society of Cinematographers for the dedicated pursuit of artistic and technological advances."

Meryl Marshall, President,
Academy of Television Arts & Sciences

"Because film is essentially a marriage of words and pictures, the Writers Guild of America is delighted to applaud the outstanding contributions made by the American Society of Cinematographers. Words. Pictures. Together they make magic."

Daniel Petrie, Jr., President
Writers Guild of America

"The Producers Guild of America congratulates the American Society of Cinematographers on 80 remarkable years devoted to supporting the vision and imagination that enables motion pictures and television produced by our industry to constantly expand mankind's creative horizons. At the soul of the experience we're all devoted to is vision. The ASC's constant support of the men and women who make that vision possible is utterly indispensable to our craft and our industry."

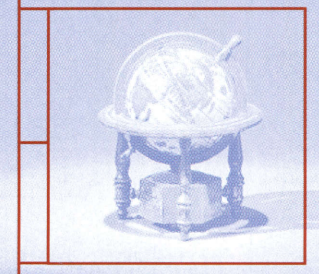
Thom Mount, President
Producers Guild of America

"It's unusual for the Academy to be able to congratulate another organization for being older, but the ASC predates the Academy by a good eight years! For each of those 80 years, the ASC has successfully fulfilled its commitment to advance the art of filmmaking and to honor and promote the art and science of cinematography. The Academy salutes the American Society of Cinematographers on its 80th anniversary and pledges to continue to work alongside ASC far into the future in the pursuit of excellence."

Robert Rehme, President
Academy of Motion Picture Arts & Sciences

"One of the first things a film director learns is that you can't make a great film without a great cinematographer. The filmmaking process depends upon a melding of the minds between the director and the DP, and any director will tell you that finding a cinematographer who can perfectly execute your artistic vision is one of the true joys of filmmaking. The Directors Guild of America salutes ASC for 80 years of helping to create movie magic."

Jack Shea, President
Directors Guild of America




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ASC
AMERICAN SOCIETY OF CINEMATOGRAPHERS
EIGHTIETH ANNIVERSARY
1919 • 1999
WRITTEN BY
RAY ZONE
ARTWORK BY
CHUCK ROBLIN
IN 1913, IN ORDER TO MAINTAIN PROFESSIONAL STANDARDS AND GAIN ARTISTIC RECOGNITION, A SMALL GROUP OF CALIFORNIA MOVIE CAMERAMEN FORMED THE "STATIC CLUB OF AMERICA".
IN NEW YORK AT THE SAME TIME THREE CAMERAMEN FOR THE EDISON STUDIOS FORMED THE "CINEMA CAMERA CLUB". IT'S PRESIDENT WAS PHILIP E. ROSEN.
RUDOLPH BERQUIST
PHIL ROSEN
BY JANUARY 1919 BOTH ORGANIZATIONS HAD COMBINED IN LOS ANGELES AND A CHARTER SIGNED BY FIFTEEN ORIGINAL MEMBERS FOR THE "AMERICAN SOCIETY OF CINEMATOGRAPHERS" WAS GRANTED BY THE STATE OF CALIFORNIA. MEMBERSHIP WAS BY INVITATION ONLY.
OVER FIFTY CAMERAMEN WERE INVITED TO JOIN THE FIRST YEAR. IN 1924 THE ASC WAS WEALTHY ENOUGH TO SET UP HEADQUARTERS ON THE TOP FLOOR OF THE NEW GUARANTY BUILDING AT HOLLYWOOD BOULEVARD AND IVAR STREET.
SINCE 1920 THE ASC HAS BEEN PUBLISHING "AMERICAN CINEMATOGRAPHER" MAGAZINE.
SAUNTY CARTOON CAMERAMAN BY LEWIS PHYSIOC FROM "AMERICAN CINEMATOGRAPHER" DURING THE 1920'S.
WILLIAM S. HART AND MARY PICKFORD WERE THE FIRST PRODUCERS TO PUT THE LETTERS "ASC" AFTER THE CINEMATOGRAPHER'S NAME IN SCREEN CREDITS BEGINNING IN 1919.
WILLIAM S. HART WITH CINEMATOGRAPHER JOSEPH AUGUST FILMING "TRAVELIN' ON" (PARAMOUNT 1922)
MARY PICKFORD AUTOGRAPHS ASC CHARTER MEMBER CHARLES ROSHER'S MITCHELL CAMERA.
ASC CHARTER MEMBER WILLIAM FOSTER GIVES CHARLIE CHAPLIN A LOOK THROUGH THE EYEPIECE OF PATHÉ CAMERA IN 1916 DURING MAKING OF "LONE STAR".
SECOND CAMERAMAN ROLLIE TOTHEROE MANS BELL AND HOWELL CAMERA AT RIGHT. TOTHEROE WAS CHAPLIN'S PRINCIPAL CINEMATOGRAPHER FOR 38 YEARS.
FOUNDING ASC MEMBER L. GUY WILKY LINES UP A LONG SHOT FOR PARAMOUNT'S "ALL TALKING" "THE BORDER LEGION" IN 1930.


ASC MEMBERS ARE THE MOST INNOVATIVE CAMERAMEN IN THE WORLD. HERE ELMER G. DYER, FAMED FOR HIS AERIAL CINEMATOGRAPHY, SHOWS PLAINLY HOW THE AKELEY CAMERA IS MOUNTED FOR AIR WORK.
THE RUGGED AKELEY CAMERA.
VIRGIL E. MILLER AND OTTO DYAR MAN THE CAMERAS FILMING "THE TRAP" IN YOSEMITE, 1917. W.S. VAN DYKE (TO THE LEFT) DIRECTS. MOST STARS OF THE SILENT ERA DEMANDED MOOD MUSIC, AS SHOWN HERE.
ARTHUR C. MILLER, ASC, FILMING THE "PERILS OF PAULINE". MILLER LATER SERVED AS ASC PRESIDENT FOR TWO TERMS AND STARTED THE ASC MUSEUM. HE IS A THREE TIME OSCAR WINNER FOR "BEST CINEMATOGRAPHY".
IN 1929 THE FIRST OSCARS FOR BEST CINEMATOGRAPHY GO TO CHARLES ROSHER, ASC AND KARL STRUSS, ASC, FOR "SUNRISE".
IN 1937 THE ASC MOVED INTO ITS NEW CLUBHOUSE IN HOLLYWOOD AT 1782 NORTH ORANGE.
THE MANSION WAS THE FORMER HOME OF SILENT FILM STAR CONWAY TEARLE AND HIS WIFE ADELE ROWLAND.
THE ASC MUSEUM CONTAINS EXAMPLES OF ALL TYPES OF MOTION PICTURE CAMERAS AND RELATED EQUIPMENT.
IN 1960 THE 1ST EDITION OF THE AMERICAN CINEMATOGRAPHER MANUAL, THE CAMERAMAN'S BIBLE, WAS PRINTED.
THE APOLLO 11 ASTRONAUTS ARE ELECTED TO HONORARY MEMBERSHIP TO ASC IN 1969.
CONRAD HALL (FAR RIGHT), 1ST WINNER OF ASC STUDENT FILM AWARD IN 1950 WITH JORDAN CRONENWETH (AT CAMERA), RECIPIENT OF FIRST ANNUAL ASC AWARD FOR OUTSTANDING ACHIEVEMENT IN CINEMATOGRAPHY IN 1987. BETWEEN THEM STANDS DIRECTOR RICHARD BROOKS AS THEY PREPARE A SHOT FOR "IN COLD BLOOD" (1967)
CHUCK ROBLIN © 1998
IN 1987 THE ASC BEGAN PRESENTING ITS AWARDS
FOR OUTSTANDING ACHIEVEMENT IN CINEMATOGRAPHY.

THE AC READERS POLL

A Cinematic Honor Roll

AC's readers cast their votes to determine the best-photographed films of all time.

Since the dawn of motion pictures, thousands of cinematographers have put their eye to the camera's viewfinder in the hope of making an indelible impression on the moviegoing public. Over the years, audiences have become increasingly difficult to impress, and the attempt to do so can sometimes be thankless; directors of photography practice a form of alchemy that is tremendously complex, and their work is frequently understood only by a relatively small group of industry insiders. To the average viewer, the impact of great photography is often subliminal, but connoisseurs can savor both the bold strokes and the small touches: a magic-hour shot that lends an aching aura of melancholy; a subtle camera pan that directs the eye to the emotional core of a scene; a carefully composed frame fraught with narrative nuance; an impeccably lit actor or actress; an operatic crane move that demonstrates the medium's dazzling majesty.

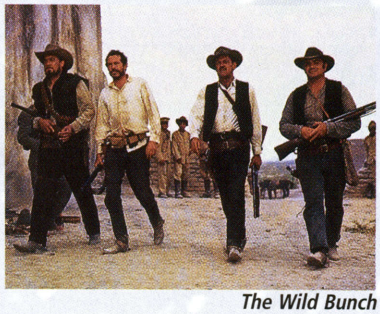
Like all art forms, cinematography is judged by a wide range of criteria. Individual tastes may differ, but the craft's greatest achievements must ultimately be determined by hindsight and general consensus. This notion was the basis of the first *American Cinematographer* Reader's Poll, which posed a straightforward question: What are the best-photographed motion pictures of all time?

Ballots were included in *AC*'s September and October 1998 issues, and readers responded by the hundreds. Your selections were recorded in two categories — films made from 1894-1949, and from 1950-1997 — in order to encourage the inclusion of older pictures (1998 was excluded, since ballots went out before the end of the calendar year). Films were ranked from 1-10 on each list, with points allotted in descending order (i.e., 10 points for the #1 choice, 9 for #2, and so on). Both lists were extended to include your top 50 choices (including ties), and the results were tabulated by *AC*'s in-house version of the unimpeachable Price-Waterhouse man: Associate Editor David E. Williams.

Since everyone has his or her own favorite films and cinematographers, the results of the poll are bound to stir up some controversy. Opinions on the final rankings will certainly differ, and fits of pique over perceived omissions and oversights are inevitable. Nevertheless, the resulting lists are a testament to the intelligence, thoughtfulness and good taste of *AC*'s readers. Each "countdown" includes both acknowledged classics and lesser-known gems, but all of the pictures you selected are paragons of photographic excellence. It's our sincere hope that spirited debates will only serve to raise awareness of the cinematographer's key role in the creation of quality cinema.

And now, without further ado, we present the films that have earned a special place in your collective memory.

—Stephen Pizzello



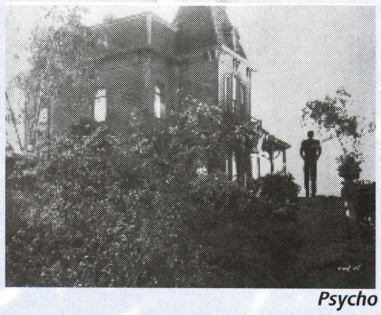
The Wild Bunch

These titles were chosen because each are excellent examples of using the camera to tell a story, while exhibiting innovative use of light, shadow, color (or lack of it), composition and movement (or lack of it), which influenced its use in other films, and left an indelible impression on the mind of the viewer.

Robb Wilson
Los Angeles, California
USA

What a job to choose these titles. It is impossible — there are so many beautiful movies, but here goes.

Thomas Hauerslev
The 70mm Newsletter
Fredericksberg
Denmark



Psycho

I hope you respect the films I have submitted; they are what I dwell on.

Anonymous
Santa Clarita, California
USA

Don't you know how much torture these things inflict? I feel like I've slighted so many great, great artists.

T. Solley
Waco, Texas
USA

It is very difficult to say what are the best-shot films. The motion pictures I've indicated were all well-photographed, regardless of their commercial success or failure. All of these cinematographers have done their utmost to make their respective pictures benefit from their artistic efforts.

Sol Negrin, ASC
Valley Stream, New York
USA



It's A Wonderful Life

All of these films made me a lover of film and utterly interested in cinematography. God save the movie, the painting on the big screen, upon which we perceive and enjoy the story limelighted by the crew, conducted for brilliant and gorgeous images.

Antonio Segatti
Brazil

A beautiful story that is photographed well already has a lot going for it. What's amazing to me is when a disturbing film like *A Clockwork Orange, Bitter Moon* or *Blue Velvet* is captured with a style that makes it unforgettable.

Jason Rosenblatt
Portland, Oregon
USA

While filling out this survey, an interesting question arose in my mind: Do the greatest films ever shot become great due to their story content combined with great cinematography, or must they simply contain great cinematography which is in place for a lack of a great story? In my opinion, the former is necessary for a film to make my personal list.

Adam Goudchaux
Valley Village, California
USA

The films I picked were ones that made me sit up and take notice. They are films that didn't rely heavily on computer effects to tell a story, but instead used atmosphere created with lights, a camera, and actors. Happy 80th anniversary!

M. Foo
Brooklyn, New York
USA

I have always considered cinematography to be the greatest art form of the 20th century, so I had to make some very difficult decisions. I could have easily come up with 100 or 200 more films.

Anonymous
Pittsburgh, Pennsylvania
USA

It is difficult not to feel that I am leaving exceptional films out of these categories. If I have, I am indeed regretful.

Walter Price
Vancouver,
British Columbia
Canada

Six out of 10 of the pictures on our 1950-97 list were shot in black-and-white — what's up with that? We're still discussing this question!

Anonymous
San Bernardino, California
USA



JFK

All of my selections are full of images that are indelibly etched in my memory.

John Ewing
The Cleveland
Cinematheque
Cleveland, Ohio
USA



M

I am not a cinematographer, nor do I even work in the film industry. However, I enjoy movies and subscribe to and enjoy *American Cinematographer*. These are a few of the films whose camerawork impressed me; several are ones that I feel will be overlooked.

Kevin Norris
Dalton, Pennsylvania
USA



Seven

There are some images we'll never forget.

Jose Hermosillo
Pasadena
California, USA

Several of the films may be on my lists because of my own subjectivity, but what a wonderful surprise to have the chance to express the love for film that all of us share. Thanks.

Tommy Gibbons
Knoxville, Tennesee
USA

It was almost impossible to list only 20 films.

Carlo J. Scialla
New York, New York
USA



1 *Citizen Kane*

Gregg Toland, ASC

The choice of Gregg Toland's cinematography for *Citizen Kane* as the best in the first 45 years of motion pictures comes as no surprise. No other movie has been more praised, studied and written about — or more panned, damned and blacklisted. It became controversial even while it was in production, and once it was shown, it became the center of an argumentative maelstrom.

This was the first feature film produced and directed by the so-called "boy wonder" of stage and radio, Orson Welles. In 1939, at the age of 24, he was signed by RKO Radio to a producer-director-actor contract that gave him an advance of $150,000 and 25 percent of the gross receipts on each film. Resented by many in the industry, Welles was regularly attacked or ridiculed by trade publications and gossip columnists. After aborting two other projects, he made *Citizen Kane,* an original screenplay he had written with Herman J. Mankiewicz.

When word leaked out that the central character, Charles Foster Kane, was a thinly disguised William Randolph Hearst, the powerful Hearst newspapers refused to carry ads for the film. *Time* and *Life* magazines hacked away at Welles incessantly. Some theater chains refused to run the picture, and it initially played largely in independent theaters. Audiences in general were put off by the "arty" photography, overlapping dialogue, unusual cutting and Welles's penchant for injecting startling and often irritating sound effects. It was years before the "newness" of the *Kane* style wore off and gained widespread acceptance. By then, the picture's visual language had been absorbed into the mainstream, especially in mystery and suspense films.

Credit for the film's amazing visuals belongs mainly to Toland. Those who worked on the picture had no doubt that Welles was fully in charge, and that his ideas permeated every aspect of the picture. However,



Opposite: Publishing tyro Charles Foster Kane (Orson Welles, center) forges ahead with journalistic fervor. This page, left: The famous breakfast-table montage details the deterioration of Kane's first marriage in less than three minutes of screen time. Below: Twin cameras are aimed up at the practical ceiling of a set. Some scenes were filmed from such low angles that holes had to be cut in set floors to accommodate cameras and crew members.

it is impossible to ignore the fact that the look of *Kane* is almost identical to that of Toland's previous picture, *The Long Voyage Home* (1940), which was directed by John Ford. Welles and Ford were miles apart in directorial style, yet *Voyage* also utilizes the ceilinged sets, wide-angle lenses, hard side-lighting, and extreme deep-focus shots so closely associated with *Kane.* Perhaps Welles was impressed by *Voyage,* and wanted a similar style for his film; the fact that he insisted on borrowing Toland from Samuel Goldwyn, instead of using one of the excellent cinematographers under contract at RKO, suggests strongly that this was the case. To get Toland, RKO also had to hire his regular crew and rent the equipment Toland had personally modified at Goldwyn.

Toland came aboard early and worked with Welles and art director Perry Ferguson on planning the overall design. He soon brought in camera operator Bert Shipman, assistant cameraman Eddie Garvin, gaffer W. J. McClellan and grip Ralph Hoge. With them came a Mitchell BNC which Toland had equipped with various accessories of his own design; eight f1.9-f2.5 Cooke and Astro lenses ranging from 24mm to six inches; various filters, diffusion screens, dimmers and flags; and other tools. Principal photography commenced quietly before the sets were even built, utilizing a studio projection room and some standing sets. Although Toland was in fragile health, he worked fast, like a man possessed. Welles later said that Toland quietly coached him in the intricacies of photographic techniques between shots, always in privacy so others on the set wouldn't notice.

The extremely sharp, deep-focus photography and shadowed faces of *Kane* had their roots in certain German expressionist films of the 1920s, such as *Der Golem* (1920, photographed by Karl Freund, ASC), and were further developed in occasional unusual American pictures such as *Transatlantic* (1931, James Wong Howe, ASC), *Frankenstein* (1931, Arthur Edeson, ASC) and two other Toland films, *Wuthering Heights* (1938) and *The Grapes of Wrath* (1940). In *Kane,* Toland was able to carry "pan focus" beyond what he and his predecessors had previously achieved by utilizing the recently introduced Eastman Super XX film, which was four times faster than Super X; new coated lenses which increased light transmission; and some gadgets of his own design. His use of Waterhouse stops with cine lenses made it practical to photograph directly into the light without creating lens ghosts.



The revolutionary photographic style of *Citizen Kane* was further enhanced by the optical camera effects of Linwood Dunn, ASC, who made possible some of the deepest deep-focus shots by compositing separate elements. Certain elaborate camera moves were also optically produced. Superior matte paintings by Mario Larrinaga provided some memorable visuals as well, such as the exterior of Kane's sprawling mansion, Xanadu.

Citizen Kane contains Toland's most celebrated work. He and Welles hoped to work together again, but never did. *Kane* received seven Academy nominations, including one for Toland, but the voters snubbed it. The cinematographer went on to shoot nine more features, including *Ball of Fire, The Little Foxes,* and *The Best Years of Their Lives.* He also served as a lieutenant during World War II in the U.S. Navy Field Photographic Branch of the O.S.S. He was just 44 years old when he died in 1948.

—George Turner



Rhett Butler (Clark Gable) and Scarlett O'Hara (Vivien Leigh) test their chemistry with a kiss.

2 *Gone With the Wind*

Ernest Haller, ASC and Ray Rennahan, ASC

In a way, it's unfortunate that *Gone With the Wind*, the best-loved picture of its time, was released in 1939. Film historians generally agree that more outstanding movies were made that year than in any other, but *GWTW* (as it was called) shunted most of the others aside. Based on an enormously successful novel of the Old South by Margaret Mitchell, it was produced by David O. Selznick, who drove the production with an iron will. The first director, George Cukor, and director of photography, Lee Garmes, ASC, were fired a few weeks into production. The credited director, Victor Fleming, a notoriously tough ex-cinematographer, suffered a nervous breakdown before production wrapped.

The credited cinematographers were Ernest Haller, who replaced Garmes, and Technicolor's great Ray Rennahan, who was with the show from beginning to end. Several other cinematographers were also involved, including Jack Cosgrove, ASC, who served as director of photographic effects, Wilfred M. Kline, ASC, and Karl Struss, ASC. The convincing 1860s look of the film resulted primarily from the work of Haller and Rennahan, production designer William Cameron Menzies, art director Lyle Wheeler and costume designer Walter Plunkett. Remarkably, the entire picture, save for a few second-unit scenes, was made at the RKO Pathé studio in Culver City, then occupied by Selznick International Pictures. All of the soundstages were utilized for the interior sets, and much of the 40-acre backlot, a treasury of sets from great motion pictures of the past, was bulldozed to make way for new exteriors. The scrapped sets provided flaming backgrounds for the "burning of Atlanta" sequence.

The public followed newspaper accounts of the production avidly, especially the search for suitable actors. Although the cinematography was not publicized, patrons commented on it in glowing terms, and increased their demands for more color films.

Three-strip Technicolor was not an easy process. Although the picture was made in the new "high-speed" Technicolor that had been used for *The Wizard of Oz*, the film was so "slow" that filming required an almost intolerable amount of candlepower, especially in the many large-scale scenes. The camera in its blimp weighed about 700 pounds, and the three-strip process required the use of correction filters and weirdly colored makeups to achieve realistic hues.

GWTW was nominated by the Academy in 13 categories. It won eight Oscars, plus three special awards. Among the winners were Haller and Rennahan, whose triumph was hard-won and richly deserved.

—G.T.



This famous scene, featuring George O'Brien lit by the full moon through the fog, was photographed by Karl Struss on an indoor set.

3 *Sunrise*

Charles Rosher, ASC and Karl Struss, ASC

Resembling a production from Germany's UFA Studio during the Golden Age of the German cinema, *Sunrise* was, in fact, planned entirely in Germany by F. W. Murnau, including the script by Carl Mayer. When William Fox signed him to a contract, Murnau brought the property — including set designers Rochus Gliese and Edgar Ulmer — to America, and produced and directed it at the old Fox Film Studio in Hollywood. There were no budgetary restrictions: Murnau was told to take whatever time and money he needed to produce a prestigious picture.

Charles Rosher and Karl Struss were secured as co-directors of photography. They worked both together and separately, as they had the previous year on Mary Pickford's atmospheric *Sparrows*. Rosher used a Mitchell camera and Struss had his own Bell & Howell. The picture was filmed silently at 16 fps. Fox, which was pushing into the sound-on-film era in a partnership with General Electric, also issued *Sunrise* as an early Movietone release, with sound effects and a fine symphonic score by Hugo Riesenfeld.

The story is a simple one: a young married couple (Janet Gaynor and George O'Brien), travel from their farm in a boat to visit the city. At the urging of a city vamp (Margaret Livingston) the man tries to drown his wife in a boating "accident," but relents. The couple reconcile, but on their way home a storm capsizes the boat and the man thinks his wife has drowned. He seeks out the vamp and has begun to strangle her when he learns that his wife is alive. The couple returns home, wiser and happier.

Putting this story on film was *not* simple. To show a village at twilight, the filmmakers contrasted the soft exterior lighting with lights coming from inside the houses. The sets of the city and an amusement park were built in a vastly oversized scale so that the audience would see them through the eyes of the awed farm couple. Forced perspectives were built in to create greater depth, with midgets as extras in the background areas. Struss said that to his surprise, Murnau worked mainly with the actors and left the visual aspects largely to Rosher and himself, although the director did insist that he wanted an effect of perpetual camera movement. The cameras were ambulatory throughout most of the picture, dollying not only along ground-level tracks, but sometimes on tracks suspended from above. The latter were often elaborate, with various curves and slopes.

The brightening of the titular sunrise was shown by slowly removing layers of gauze from in front of the lens. Most of the exteriors were made on the Fox backlot and on stages. Some of the lake scenes were made on the north shore of Lake Arrowhead, but were photographed in such a way that they carried the same expressionistic quality as the studio scenes.

—G.T.



4 *Metropolis*

Karl Freund, ASC and Günther Rittau

Probably the most popular of the German silent movies, *Metropolis* was made over a period of 310 days and 60 nights at the huge UFA Studio at Neubabelsburg, between Berlin and Potsdam. It cost $1,500,000 and employed 36,000 extras. Partially financed by Paramount, it was a massive production that could only have been pushed to completion by a hard-nosed, creative man like its producer and director, Fritz Lang. Dancing to Lang's Prussian tune was a small army of craftsmen, technicians and actors.

It is doubtful that the cinematographers, Karl Freund and Gunther Rittau, hopped as nervously as the others, for these men were as tough as Lang and were similarly celebrated for their contributions to the art of filmmaking. The story tells of a future city of towering buildings with high connecting bridges and airplanes that flit among the skyscrapers. The god of the city is efficiency. The rulers live above the streets in sybaritic luxury, while the haggard workers who tend the machines live in near-darkness below the streets. A diabolical scientist, Rotwang, creates a robot in the likeness of Maria, a spiritual leader of the underground dwellers, and uses it to foment a workers' rebellion.

The photography of the elaborate city models is always convincing. Likewise, the smoothly lighted scenes of the idle rich of the upper world are the last word in luxuriant decadence, while the realm of the workers is a shadowy hell. The scenes in which Rotwang endows his creature with life are marvelous, and every bit as effectively filmed as the creation scenes in Universal's later *Frankenstein* films.

Masterful photography also helps the great Scandinavian actress, Brigitte Helm, to portray Maria and her robot twin superbly. The innocence of Maria, the inhuman evil of the robot, and the sexual allure of the robot impersonating Maria are all strongly conveyed.

Among the many images from the film that linger in the memory are the weirdly lighted crowd scenes, in which the actors and their shadows create strange geometric patterns; an old-fashioned chase in which Rotwang corners the real Maria on a high building; and an excitingly staged flood in the underground quarter.

One ad for the New York run of the film blared, "TELEVISION — The Newest Miracle of Science — See it in *Metropolis.*" The scene in question has an actor on a TV screen reporting that a riot is in progress. To simulate television for the movie, Freund had a small, translucent screen built into the set and placed a projection machine behind it. He then rigged a coupling device to synchronize the shutters of the camera and projector. This was before faster films and synchronous motors made the projection process practical, but the effect is perfectly convincing.

Metropolis was released in Germany in 16 reels — a length of more than three hours. Paramount trimmed it to 9 reels, renamed the characters and corrected the titles politically. It's still quite an impressive show and a monument to imagination.

—G.T.

The mad scientist Rotwang (Rudolph Klein-Rogge) exults in his creation of a cybernetic woman.


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5 *The Wizard of Oz*

Harold Rosson, ASC

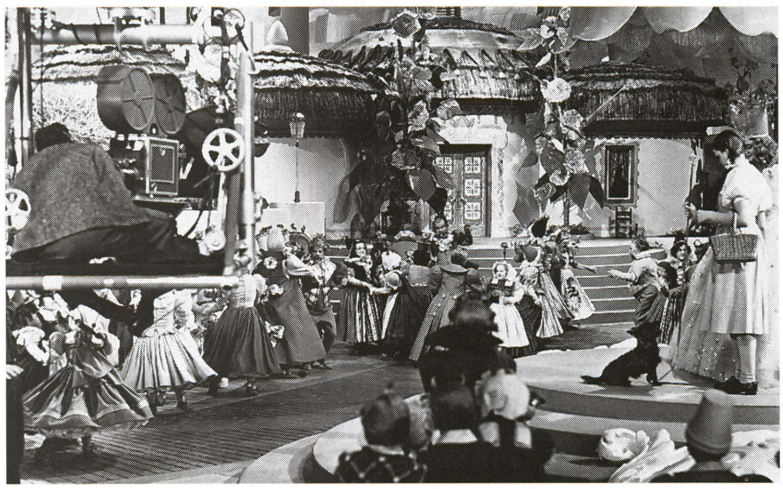
Several attempts were made during the silent film era to put L. Frank Baum's Oz stories on the big screen, including several produced by Baum himself, but all failed to please the public. It was not until 1939, when Metro-Goldwyn-Mayer presented *The Wizard of Oz* as a spectacular Technicolor fantasy with music, that the idea achieved its potential. With five months of principal photography and a negative cost of $2,777,000, it was the most expensive picture since 1930's *Hell's Angels,* but producer Mervyn LeRoy, director Victor Fleming and a gigantic production staff gave MGM its money's worth. Audiences loved the performers, as well as the three-strip Technicolor photography, which was a strong selling point at that time because all but a few pictures were shot in black-and-white. MGM assigned one of its top directors of photography, Harold (Hal) Rosson to the project. Rosson had been working in the movies since 1908 and became a first cameraman in 1915. He had worked with Technicolor before, most notably on the elegant 1936 picture *The Garden of Allah.* Allen Davey, ASC, Rosson's Technicolor associate, had worked on MGM's first three-color feature, *Sweethearts,* which was still in production when *Wizard* was in preparation.

The Kansas scenes in *Wizard,* including visual effects maestro Arnold Gillespie's celebrated tornado, were filmed in black-and-white. In the original release prints, these sequences were processed in MGM's exclusive Sepia Platinum process. Transitional frames were hand-colored to ease the abrupt change to the gloriously colorful Oz.

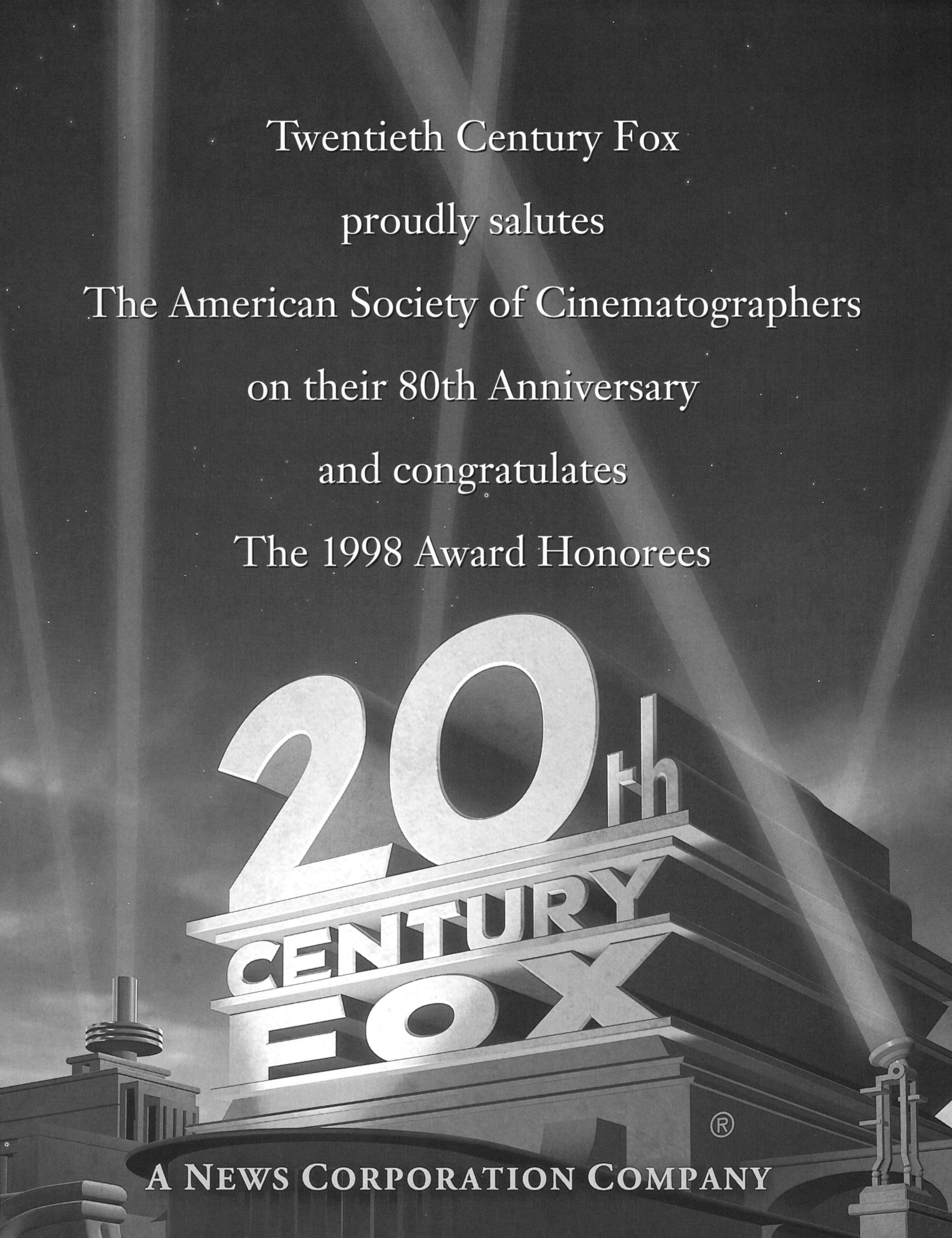
Photographing Oz in color was unusually difficult, due to the vastness of the sets and the heavy concentration of strong colors. Rosson said it would not have been possible but for the new and much faster Technicolor film, which today would have an ASA rating of about 50.

Photographing *The Wizard of Oz* was a big order, and Hal Rosson filled it perfectly. (For complete coverage of the film and its recent restoration, see *AC* Dec. '98.)

—G.T.



Above: Glinda the Good Witch (Billie Burke) shields Dorothy (Judy Garland) from the Wicked Witch of the West (Margaret Hamilton). Right: Hal Rosson, ASC rides with the unblimped Technicolor camera in Munchkinland. At right are Toto, Judy Garland and Billie Burke.


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George (Tim Holt) and Lucy (Anne Baxter) watch from the stairs as Eugene (Joseph Cotten) and Isabel (Dolores Costello) dance a waltz. The stairway in this scene appeared in many subsequent movies.

6 *The Magnificent Ambersons*

Stanley Cortez, ASC

The late, great Stanley Cortez often said that light was "an incredible thing that can't be described," and that every day he learned something new about it. He further maintained that "only two of all the directors I've worked with understood it: Orson Welles and Charles Laughton." For Welles's *The Magnificent Ambersons* and Laughton's *The Night of the Hunter,* Cortez used light and shadow to create enough perfect black-and-white images to fill an art gallery.

Cortez had gone to New York to shoot tests for David O. Selznick when Welles asked to borrow him for *Ambersons,* which was about to start at RKO. Welles had seen some of Cortez's work in Universal mystery films, especially the 1941 comedy-mystery *The Black Cat* (not to be confused with the earlier 1934 chiller of the same title), and wanted a somewhat similar look for *Ambersons.* Cortez arrived in Hollywood on Monday and shot the first scene the next morning, with no preparation. Based on a Booth Tarkington story, the picture takes place in the early part of this century, and relates the tale of an American family that is unable to change with the times. It has authentic costumes and magnificent settings designed by Mark Lee Kirk, featuring many snow scenes and old-fashioned buildings.

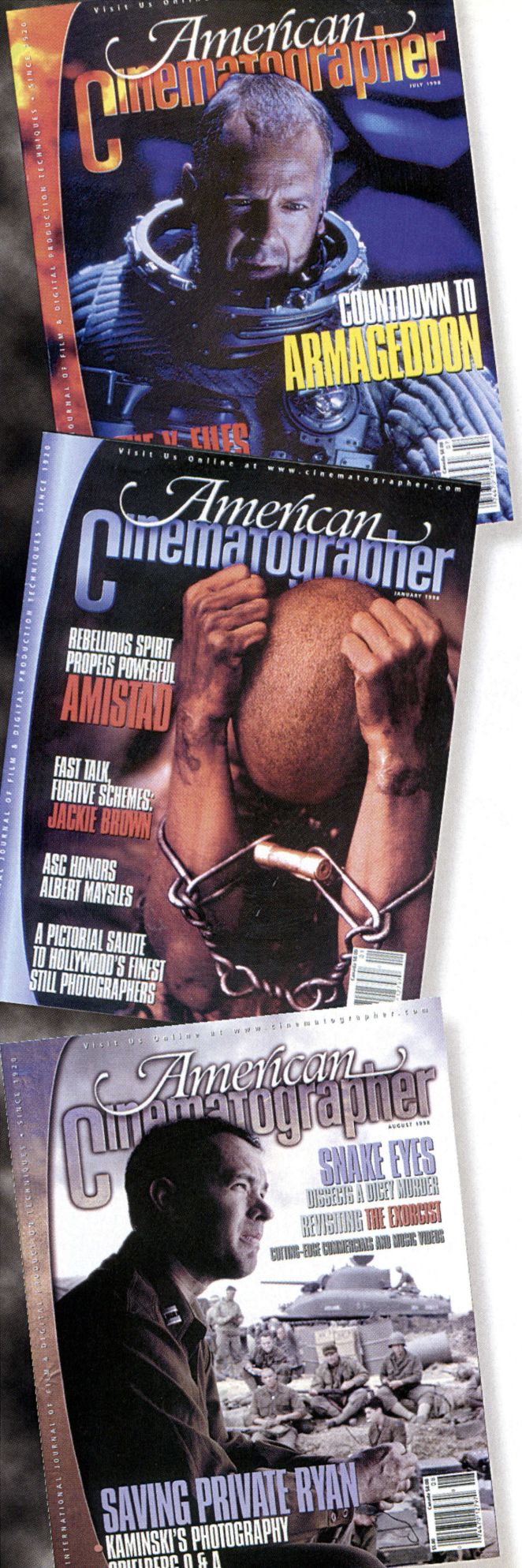
Three interior floors of the Amberson home, filled with gingerbread woodwork, fancy wallpaper, heavy furniture and a massive staircase, were built on Stage 3 at RKO's Hollywood studio. Cortez recalled that when he'd seen the set before he went to New York, he said to himself, "I pity the poor bastard who has to photograph this damned thing!" Snow scenes involving a sleigh ride were set up in the big ice plant in downtown Los Angeles, a site where Columbia had filmed much of *Lost Horizon* and *The Man With Nine Lives.* Street scenes and other exteriors were made at RKO-Pathé in Culver City.

Welles and Cortez struck up a good rapport, but Welles later became increasingly impatient with Cortez's perfectionistic approach to lighting. The cameraman was quoted as saying, "When you're doing a picture with Orson Welles, Orson runs the show, and if he doesn't, his voice does." However, the extra effort paid off in artistic compositions, rich blacks and scenes of remarkable depth. Welles was still producing and acting in his Mercury Theatre radio dramas, and sometimes was unable to be on the set. On these occasions he left recorded directions for Cortez and editor Robert Wise, who would film the scenes without him.

The 10-day shoot in the ice house made it possible to use real snow and show the frosty breath of the actors, but it was tough going. In their attempts to stay warm, the crew wore fur-lined leather coveralls and sipped brandy. Arc lights were used to create a sunlit effect on the snow, and the cold caused incandescents to burst at unexpected moments. At one point, actor Ray Collins was sidelined with pnuemonia.

Because RKO was committed to furnishing double-bill programs, a new studio chief decreed that no feature could be longer than 7,500 feet. Cortez was horrified when many of his favorite scenes from *Ambersons* were chopped out. Even in its truncated state, the picture stands as one of the finest examples of black-and-white cinematography ever to grace the screen.

—G.T.



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Despite their close proximity to Captain Renault (Claude Rains) and Victor Laszlo (Paul Henreid), Rick (Humphrey Bogart) and Ilsa (Ingrid Bergman) risk a glance fraught with romantic undertones.

7 *Casablanca*

Arthur Edeson, ASC

Romance, intrigue and suspense are three reasons for the enduring popularity of *Casablanca,* a film that was originally intended to be little more than a timely World War II drama. Another reason is the great cast, which included Humphrey Bogart, Ingrid Bergman, Paul Henreid, Claude Rains, Conrad Veidt, Peter Lorre, Sydney Greenstreet and Dooley Wilson. The script, by Julius J. and Philip B. Epstein and Howard Koch, crackles with great dialogue, and Max Steiner's music points up the heartbreaks of wartime love.

The distinctive touch of cameraman Arthur Edeson contributes greatly to this tale of displaced persons crowded into a neutral African port while trying to escape the Nazis. The veteran cinematographer, who earned his spurs in 1914, had a recognizable style of his own that was always evident, even though it was sublimated to the varying demands of every imaginable kind of movie. *The Thief of Bagdad, All Quiet on the Western Front, The Footloose Heiress, Mutiny on the Bounty, Gold Diggers of 1937* and *Wings of the Navy* all benefitted from the Edeson touch. Although he was a giant in his profession, he was physically diminutive. On the set, he was so demanding of perfection that he earned the nickname "Little Napoleon."

What Edeson is most noted for are films with unusual characters in colorful surroundings. He had a knack for making his players look bigger or smaller than life. In the films *Frankenstein, The Invisible Man* and *The Maltese Falcon,* his camera peers up at Boris Karloff, Claude Rains and Sydney Greenstreet, respectively, to enhance their size. In *Casablanca,* Peter Lorre gets the opposite treatment as he wriggles through a crowd like a worm crawling out of an apple. Edeson also made Humphrey Bogart (who wasn't tall) seem bigger than Ingrid Bergman (who was) and just as tall as his rival, Henreid. With deft lighting and the careful use of camera angles, he added menace to Veidt's sculptured features, and helped Claude Rains sustain his characterization of a dapper, skirt-chasing little rogue.

Most of the picture takes place in Rick's Cafe Americain, Bogart's chronically crowded lounge and gambling joint. The camera initially moves through this hot spot to reveal a bar, a roulette wheel, tables filled with extras, the famous Sam singing at his upright piano, and a mass of interesting characters. Bits of conversation are heard as the camera (and mike boom) go by.

Most of the scenes everybody remembers are more intimate: Bogart drunk and brooding about Bergman in the dark and empty cafe, telling Sam to "play it"; the bittersweet flashback to Paris, war and lost love; the heartwrenching scenes when the lovers are *almost* reunited. Most memorable of all are the climactic, fogbound night scenes at the airport, where Bogart helps Bergman and Henreid to escape, almost guns down Veidt (reluctantly), and brightens as Rains tells his men to "round up the usual suspects."

The closing shot, with Bogart and Rains planning to join the Free French as they walk away and vanish into the fog, provides an upbeat ending for a picture that has administered a strong dose of danger and heartbreak.

—G.T.

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8 *Potemkin*

Eduard Tisse

In the years following the Bolshevik revolution, the Union of Soviet Socialist Republics was anxious to show its populist side to a world which in large part regarded the Communists as brutes. With this goal in mind, the USSR gave the go-ahead to a feature based on the 1905 rebellion staged by the crew of the Czar's battleship. The tale includes scenes of the cruelty that led to the mutiny, the violent rebellion itself, the crew winning over of the people of Odessa, the massacre of the citizens by Czarist soldiers on the city's great steps, and the triumphant surprise ending when the Russian fleet steams in and, instead of attacking, cheers the mutineers.

Sergei Eisenstein, the country's most promising film director, helmed the picture, and it was photographed by a young firebrand who became the Soviet Union's most celebrated camera artist, Eduard Tisse. Their technique was innovative and influenced filmmakers all over the world.

Tisse came from Stockholm, where he had worked on Swedish films. Moving to Russia, he became a newsreel cameraman during World War I, filmed the first May Day celebration in Red Square, and co-photographed the first Soviet feature, *Signal.* He began working with Eisenstein in 1924, and photographed all of his pictures afterward, including *Alexander Nevsky* (1938) and Eisenstein's last pictures, *Ivan the Terrible Part I* (1945) and *Part II* (not released until 1958).

Eisenstein called *Potemkin* a "shock attraction," and he and Tisse explored every method they could use to stun audiences, including a revolutionary use of cross-cutting. Although the photography is as realistic as a newsreel, it is far more artistically composed, and has been desribed as "photography like painting-in-movement" and "photography like verbal imagery." Both men had backgrounds in art — Eisenstein was a theatrical set and costume designer, and Tisse had studied art in Stockholm. The scenes they crafted are sharp and biting, with no apparent diffusion. Close-ups are merciless in their detail.

The realism of the shipboard scenes is impressive; we even see the rotten meat the sailors are expected to eat. The fight aboard the ship is shown in both large-scale action scenes and close shots. By far the most famous sequence is the massacre on the Odessa steps, which more film students have studied frame by frame than any other. It begins with the citizens waving at the ship from the long series of wide steps that lead down to the quay. The camera passes over the crowd, showing families and individuals of all kinds. The soldiers come down from behind, in formation, firing into the populace in unison at regular intervals. The details are shown in a montage of flash shots of varying length, some as few as 10 frames. Sudden close-ups were used to great effect, the most famous being a woman struck in the eye by a bullet (shown above).

—G.T.



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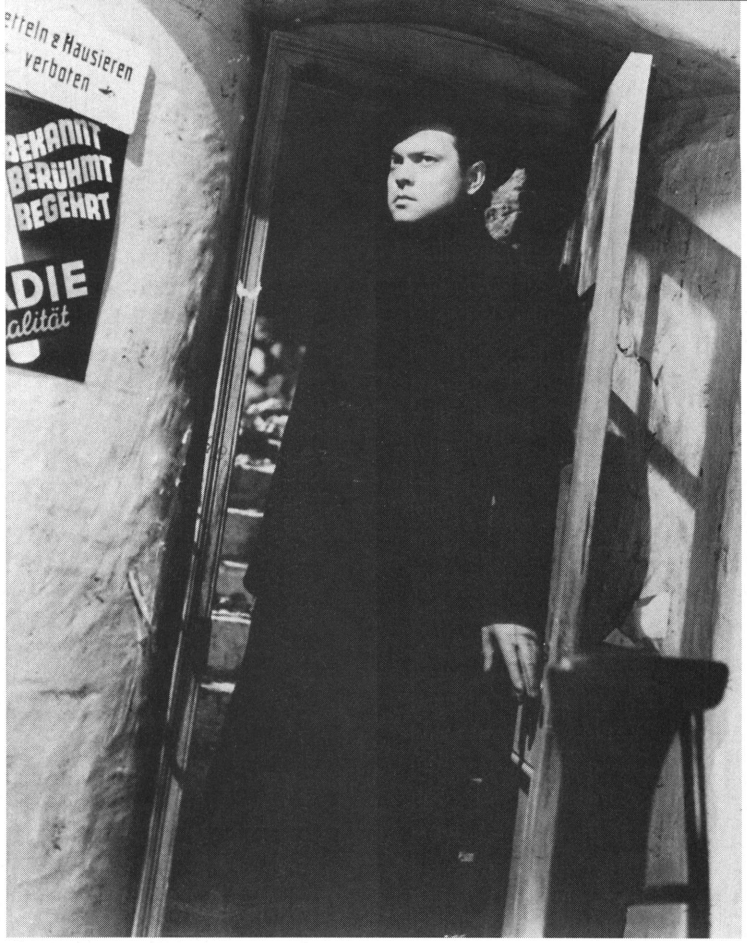
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Orson Welles gives a spellbinding performance as the elusive Harry Lime.

9 *The Third Man*

Robert Krasker, BSC

Directed by Carol Reed, *The Third Man* comes near to being the perfect British film. And why shouldn't it be? It was specially written by Graham Greene, produced by Alexander Korda and David O. Selznick, had additional dialogue by Orson Welles, and was photographed by legendary cameraman Robert Krasker. With all of these geniuses on the job, the situation certainly could have become a classic example of "too many cooks," but the recipe came out just right. The picture was made almost entirely in Vienna, a city shattered by war, but it couldn't have been more smoothly done if it had been shot under studio conditions.

Krasker was born in Perth, Australia, studied art in Paris, and learned the business at Korda's studio in London. He gained international renown for several postwar English pictures, *Henry V, Caesar and Cleopatra, Brief Encounter* and *Odd Man Out.* Then came *The Third Man,* for which he received an Academy Award for black-and-white cinematography. The picture won the Grand Prix for the best feature film at the 1949 Cannes Film Festival.

Vienna is seen by day and night as Holly (Joseph Cotten), an American pulp writer, searches for clues to the death of his friend, Harry Lime (Welles). He is unable to find the third witness to the death, and eventually learns that the third man was Lime — who had another man killed in his place, and is alive and flourishing as a black marketeer. After many twists of plot, Holly kills Lime.

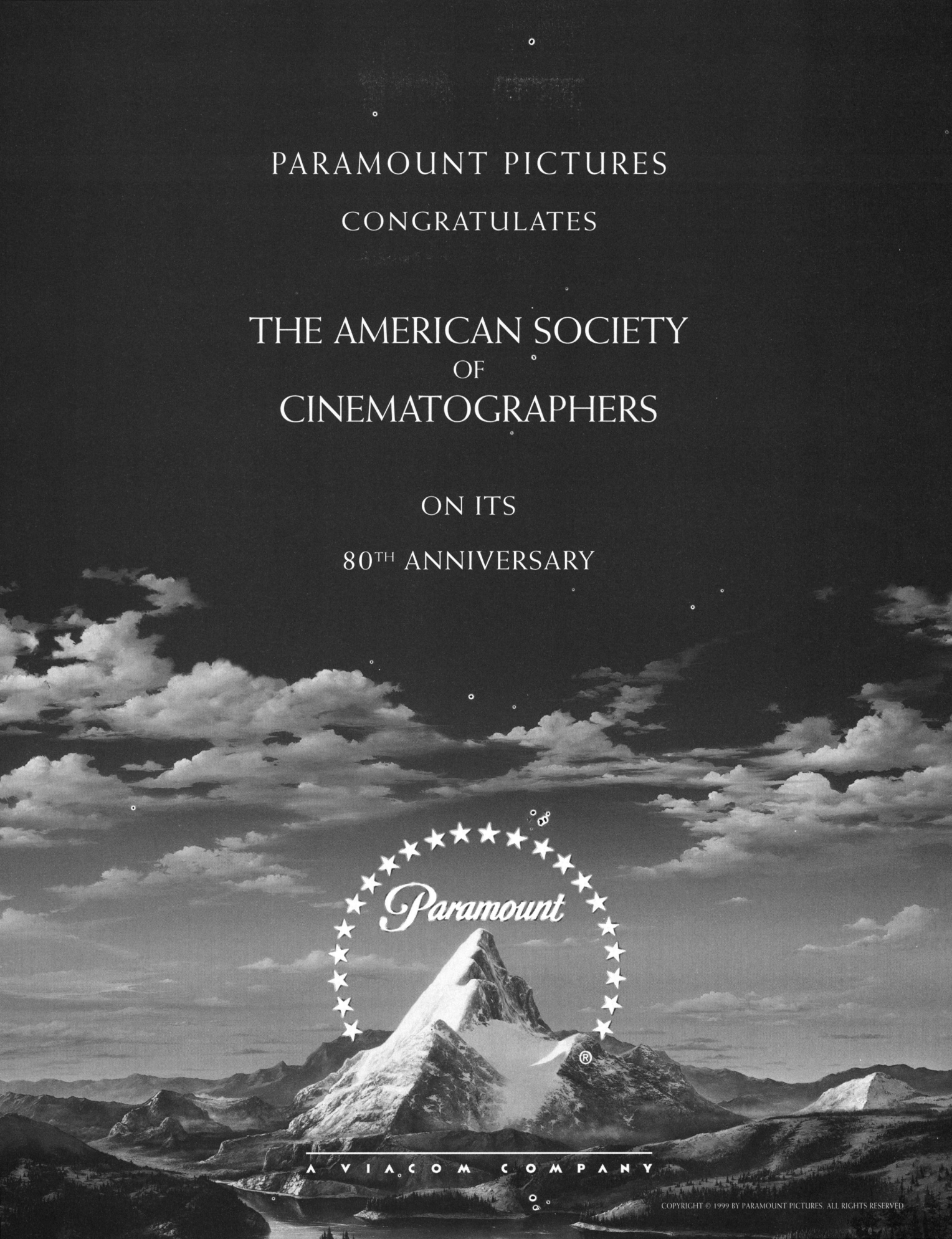
Some of the best-remembered scenes occur in daylight. One is the meeting of Holly and Lime at the Prater amusement park, where they talk in a car on the world's largest Ferris wheel. Another is the last scene in the picture, a long take in which Holly waits for Lime's former mistress (Alida Valli) — the woman he loves — on a straight road stretching to infinity between rows of bomb-ravaged trees. She walks past without speaking, and the scene captures perfectly the desolation of the spurned lover.

The most wildly imaginative images were filmed night-for-night, using hard light (supposedly from streetlamps), high contrast and numerous side tilts of the camera. The streets are generally unpopulated except by the principals, and the city serves as a giant stage for the actors, who sometimes cast great shadows on the pockmarked walls. The doorways are black, and one gets the feeling that unseen menace lurks in all of them. So it does: in one of cinema's most famous "reveals," we see the toes of a man's shoes jutting out of just such a shadow, and when someone opens a door across the street, the light falls upon a smirking Harry Lime.

Best of all are scenes photographed in the vast sewers of Vienna, where military police from the four occupying nations try to capture Lime. Weird lighting effects and numerous Dutch angles give the long sequence an expressionist ambience. A high point in the sequence is a strange street-level shot in which the fugitive tries to lift a manhole cover and his fingers, thrusting through and into the night, resemble the tentacles of a starfish.

The camera operators on this classic show were Edward Scaife, BSC and Denys Coop, BSC, and some additional photography was done by John Wilcox, BSC and Stan Pavey, BSC.

—G.T.


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D.W. Griffith and Billy Bitzer photograph Sherman's troops from a hillside that is now part of Forest Lawn Cemetery in Hollywood.

10 *The Birth of a Nation*

G.W. "Billy" Bitzer

The most famous of all silent films is *The Birth of a Nation,* which was produced and directed by D.W. Griffith and photographed in its entirety by Gottfried Wilhelm "Billy" Bitzer. This story of the Civil War and its aftermath, from the Confederate viewpoint, was highly praised for its artistry and heavily criticized for its treatment of race relations. (In his memoirs, *Adventures With D.W. Griffith,* Bitzer's assistant, Karl Brown, noted that the film's title was changed from *The Clansman,* "which seemed to all of us inside the studio to be an extremely ill-advised attempt to add historical dignity to what was already a runaway popular success.")

Griffith himself was the son of a Confederate colonel, and his once-wealthy family was ruined by the war.

Bitzer, a Bostonian, was truly a pioneer of motion pictures, helping to design the first Mutoscope in 1894 and becoming a cameraman at Biograph in New York two years later. Twelve years after that he began working with Griffith, filming more than 1,000 one- and two-reel movies. In 1914, Griffith quit Biograph and left for California to be an independent producer. Bitzer soon followed, and the pair soon set up shot at the Reliance-Majestic Studio at the intersection of Hollywood and Sunset boulevards, where they began production. Several investors, including Bitzer, chipped in money to finance it.

In the memoir *G. W. Bitzer, His Story* (published in 1973), Bitzer recalled, "I was cameraman for the entire picture and shot every foot of it, though I had help from my assistant, Karl Brown, who was in his teens... There was only one camera — mine — shooting the entire production. . . *The Birth* was taken on the hand-cranked $300 camera with a 2.52-inch interchangeable lens and a wide-angle lens; you had to screw it out and screw the other into its place.

"There was no night photography, of course, and it was all done in sunlight, even the assassination of President Lincoln in Ford's Theater. The carpenter-made model-miniature of the burning of Atlanta, which had to have special lighting to make it look real, was the only scene I can recall that we did not shoot by sunlight."

The battle scenes, which were done first, are still the best Civil War conflicts ever filmed. Hundreds of extras were organized into groups. Sometimes Bitzer was in a ditch, photographing horses and wagons as they passed over. He even lay prone on the ground while one horse jumped over the camera. Working in the battle trenches, often with rifles firing blanks directly at him, Bitzer suffered numerous powder burns. The smoke bombs used to simulate exploding shells sometimes left him cranking blindly. "My legs were pitted with powder burns already, but all that mattered was that the bombs were coming up within camera range," Bitzer said. "Turning the crank to three-quarter waltz time — first with one arm and (when there was a break in the action and a chance to change over) then with the other — that's what I was there to do. [The crank on a Pathé camera was on the back rather than the side.] Those turns had to be absolutely constant, the same rate of speed over and over, but the rhythm was so much a part of me that I felt I could do it in my sleep."

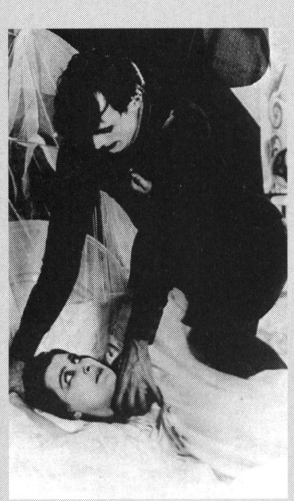
Through many adventures such as these, Bitzer and his battered little camera made this masterpiece possible.

—G.T.


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11 *Napoléon* (1927, Jules Kruger, Joseph-Louis Mundwiller and Torpkoff)
12 ***Intolerance*** (1916, G.W. Bitzer and Karl Brown, ASC)
13 *The Grapes of Wrath* (Gregg Toland, ASC)



14 *Beauty and the Beast* (1946, Henri Alekan)
15 ***The Cabinet of Dr. Caligari*** (1919, Willy Hameister)
16 *All Quiet on the Western Front* (1930, Arthur Edeson, ASC)
17 *The Great Train Robbery* (1903, Edwin S. Porter and Blair Smith)
18 *Rebecca* (1940, George Barnes, ASC)



19 *Nosferatu* (1922, Günther Krampf and Fritz Arno Wagner)
20 *The Maltese Falcon* (1941, Arthur Edeson, ASC)
21 ***King Kong*** (1933, Edward Linden, J. O. Taylor and Vernon L. Walker, ASC), *The Last Laugh* (1924, Robert Baberske and Karl Freund, ASC), *The Red Shoes* (Jack Cardiff, BSC)



22 *The General* (1927, Bert Haines and Devereaux Jennings, ASC), *A Trip to the Moon* (1902, Michaut and Lucien Tainguy)
23 *Stagecoach* (1939, Bert Glennon, ASC)
24 ***Out of the Past*** (1947, Nicholas Musuraca, ASC), *The Scarlet Empress* (Bert Glennon, ASC)
25 *The Best Years of Our Lives* (Gregg Toland, ASC)
26 *The Crowd* (1928, Henry

Concerning Cinematography

A few words from director Ernst Lubitsch on cinematic conditions, as told to William Stull, ASC.

The cinematographers of Hollywood have had some colossal obstacles placed in their way since we began to make talking pictures, but they have surmounted them wonderfully. I think the quality of photography they are making now has come back almost to the high level of the old days — almost, but not entirely! There are still a few things to overcome before we get back that absolute perfection again, but these last few months have seen great progress.

Probably the greatest evil has been the policy of using a number of cameras on every scene, and trying to do long shots, close-ups, and everything else all at once. The [soundproof camera] booths have been inconvenient, but in the hands of such a skillful cinematographer as Victor Milner, ASC, who photographed my last picture, *The Love Parade*, they are no more than inconvenient. On silent pictures, we only used to use one camera — and that kept the cameraman busy; now, on the talkers, we have to use three or four cameras always, and sometimes more. It is entirely the wrong system, unjust to the cinematographer, to the actor, and to the director. They tell us that by using so many cameras we are saving the company time and money; well, if we are, those of us who have been making silent pictures the other way these last 20 years ought to be in jail! Just think of all the money we must have wasted by concentrating on one angle of a scene at a time — and making it good!

Just the same, this change in the camerawork of the talking films has done one good thing. It has freed the cinematographer from the mechanical routine of running his camera. That is good. It takes a real artist to arrange the lighting so as to bring out the full beauty of the set and actors, and match the emotional key of the scene. That is a very great job in itself, and to have the first cameraman free to do this without the routine bother of cranking a camera is a very great help to the director.

For myself, I do not believe in this present craze for covering a set with directors of dialogue, directors of dancing, directors of music, and all the other would-be directors who are interfering with the director's work. I would not make a picture that way, for it could not be a satisfactory picture with so many minds trying to govern it. But to have my cameraman free to direct the photography is another matter. It is really what he has always been doing, and anything that gives him a chance to do his work better is just making things so much better for me. It is better too, for the company, for he can do his part better and quicker, and on the rare occasions when we have to work overtime, he can still remain to direct the photography, so that it, like the dramatic part of the picture, would be the product of a single mind's supervision. That is

how things should be done in every department. That is the way it is often done in Europe.

There, for instance, the director is more active in preparing and editing his pictures than is usual here; and again, the art director is responsible for everything about the set — one man designs it, supervises its construction, paints it, and dresses it. Our art directors there are a much more intimate part of the production than they are here — they stay right with the picture from start to finish, even being on the set with us while we are shooting, ready to make any repairs or alterations that may be needed. Over here, there is a separate man for all of these duties — a separate mind to interpret the original design in its own way. Only once over here have I been able to have my art director work through the picture with me as we did in Europe; that was on *Lady Windermere's Fan*, a picture which I think had the most perfect sets of any I have made. And most of the critics were kind enough to agree with me on that point. So now, of course I believe in these changes which are giving cameramen a freer hand in their work.

In Europe, they are learning to cooperate more and more with the cinematographers. Just recently I saw a picture made by an American cameraman who has moved to Europe. Here, he was considered good, but only good, and he probably never got a real chance to do his best work; this German picture of his was much more than good, for he had been given a free hand, and the result was such great cinematography as any director would be proud to have in his pictures. But then, he had so much more to work with than we did there in Germany before I came over here.

When we made *Gypsy Blood*, back in 1919, we had almost no facilities whatever; I don't think we had more than eight lights for the whole picture! All that has changed, but one thing is the same as ever: the American cameramen are the best in the world. How we used to envy them in the old days! They knew one thing that we would have given anything to know: they could photograph their people so that the makeup didn't show! They made pictures of human beings rather than actors. They were wonderful to us then, and they still are, for they are just as far in the lead as ever.

Perhaps the greatest point about American camerawork is that it is truly artistic. It is beautiful, it is distinctive, but it doesn't call attention to itself. This is greatness in art, that it is great yet not obviously great. For when art begins to be apparent, to show itself as a definite, studied effort to be artistic, it ceases to be art, for true art needs no label. To me, that explains the greatness of American cinematography. Also, it is the key to my objection to Carl Dreyer's *Passion of Joan of Arc*. That picture had brilliant moments, but it was so studied, so obviously calculated to make people gasp, and to say, "See, that is art," that it overreached itself.

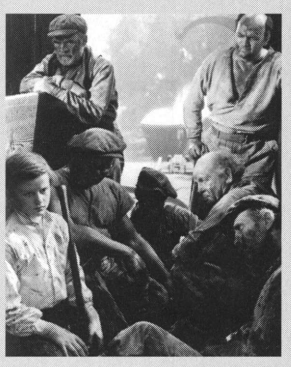
Color photography? Of course it is bound to come. Right now, I prefer expertly photographed black-and-white to any of the color work so far available. It is more perfect, and less distracting. But there is no doubt a demand for colored films is rising, a demand which will become universal when the technicians develop a really perfect color process — one that will show real people instead of pale dummies. Mr. Milner tells me that this will come when they work out what he calls a three-color process: I hope that one is developed soon, for it seems that they are forcing the growth of this demand for color, and if there aren't improvements technically, I think that the future of color will be unpleasantly dull.

And what is the future of talking pictures? Of course I'm an optiSharp, ASC), *It's a Wonderful Life* (Joseph F. Biroc, ASC and Joseph Walker, ASC) **27** *The Adventures of Robin Hood* (1938, Tony Gaudio, ASC and Sol Polito, ASC), ***The Treasure of the Sierra Madre*** (Ted D. McCord, ASC) **28** *The 39 Steps* (1935, Bernard Knowles), ***Double Indemnity*** (1944, John F. Seitz, ASC), *M* (Fritz Arno Wagner) **29** *Ben-Hur* (1926, Clyde De Vinna, ASC, René Guissart, ASC, Percy Hilburn, ASC, Karl Struss, ASC) **30** ***T-Men*** (John Alton) **31** *Alexander Nevsky* (Eduard Tisse), *The Docks of New York* (1928, Harold Rosson, ASC), ***How Green Was My Valley*** (Arthur C. Miller, ASC), *Triumph of the Will* (Sepp Allgeier, Karl Attenberger and Werner Bohne) **32** *Meet Me in St. Louis* (George J. Folsey, ASC), *Notorious* (1946, Ted Tetzlaff, ASC), *The Passion of Joan of Arc* (Rudolph Maté, ASC) **33** *Wings* (1927, Harry Perry, ASC) **34** *My Darling Clementine* (1946, Joseph MacDonald, ASC), ***Wuthering Heights*** (1939, Gregg Toland, ASC) **35** *The Good Earth* (Karl Freund, ASC), *The Man With a Movie Camera* (Mikhail Kaufman), *Shanghai Express* (Lee Garmes, ASC) **36** *Great Expectations* (1946, Guy

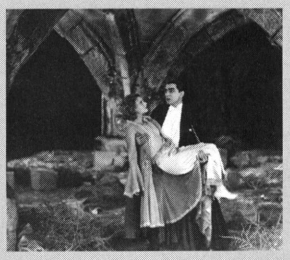


















Green, BSC)
37 *Red River* (1948, Russell Harlan, ASC), *Zoo in Budapest* (Lee Garmes, ASC)
38 *The Bicycle Thief* (1948, Carlo Montuori I), ***Dracula*** (1931, Karl Freund, ASC), *Greed* (1925, William H. Daniels, ASC and Ben F. Reynolds, ASC), *Kings Row* (James Wong Howe, ASC), *A Midsummer Night's Dream* (1935, Hal Mohr, ASC), ***The Thief of Bagdad*** (1940, Georges Périnal)
39 *The Informer* (1935, Joseph H. August, ASC), *The Lady From Shanghai* (Charles Lawton, Jr., ASC), *Morocco* (Lee Garmes, ASC)
40 *All The King's Men* (Burnett Guffey, ASC), ***City Lights*** (Mark Marklatt, Gordon Pollock, ASC and Roland Totheroth, ASC), *Mutiny on the Bounty* (1935, Arthur Edeson, ASC), *The Naked City* (1948, William H. Daniels, ASC), *The Plow That Broke the Plains* (Pare Lorentz), *Spellbound* (1945, George Barnes, ASC), *Vampyr* (1932, Rudolph Maté, ASC and Louis Née)
41 *Bride of Frankenstein* (John Mescall, ASC), *Black Narcissus* (Jack Cardiff, BSC)
42 *Children of Paradise* (1945, Marc Fossard and Roger Hubert), *Dr. Jekyll and Mr. Hyde* (1932, Karl Struss, ASC), *Faust* (1926, Carl Hoffmann), ***Holiday*** (1938, Franz Planer, ASC), *Leave Her to Heaven* (Leon Shamroy, ASC), *The Long Voyage Home* (Gregg Toland,

Concerning Cinematography

mist! They are certainly here to stay, and, in spite of what everyone was saying a year ago, picture people are going to stay with them. Just think, now, of the greatest talkies of the last few months: *The Broadway Melody, In Old Arizona, Hollywood Revue, Coquette, Bulldog Drummond, Alibi, Thunderbolt, The Lady Lies*, and any others you might name — every one made by a silent-picture director. And where are the big ones made by your stage directors? Yes, the silent-pictures directors are going to be the ones who make this new medium the great thing it is going to be. And the new directors of the future are going to come from the picture-trained people, too, and as usual many of the best of these will be men from behind the cameras. For whether you are making pictures silent or talking, you are still making pictures, and to make pictures you must first of all know how to see drama through the eye of the camera! ■





Top: ***The Amazing Mr. X (a.k.a. The Spiritualist).*** **Bottom:** ***Bride of Frankenstein.***

AC July 1939

British Cinematographer Talks of Hollywood

by Fred Young, FRPS

During the many years I have been a reader of *American Cinematographer*, I have from time to time enjoyed articles in which outstanding members of the ASC have discussed their experiences of making pictures in England. Knowing these men, often from working in the same studio with them as they made their productions in my country, I have been impressed by the fair-mindedness shown in their descriptions of British studios and conditions.

Today I find myself in a similar position, as I have been asked to write something about my impressions, as a representative of Britain's camera profession, of making a picture in Hollywood.

The production is by no means completed at this time, but I feel that it has been a privilege and a pleasure to be able to take part in the making of a Hollywood production, and especially to be associated with Joseph August, ASC in photographing Anna Neagle in the Herbert Wilcox-RKO picture *Nurse Edith Cavell.*

The friendship and cooperation that everyone has extended to me could not have been bettered had I been working at home in an English studio. This friendliness will be remembered long after much of the rest of my Hollywood visit is forgotten.

Technical Resources

From a less personal viewpoint, the dominant impression that a British visitor gets as he works in Hollywood is the — to us — incredible abundance of Hollywood's technical resources.

By this, I do not wholly mean equipment or physical facilities, for in England we now have, as the ASC members who have worked there have pointed out, quite a number of studios as well-equipped and nearly as large as those in Hollywood.

We have many excellent directors of photography, sound engineers, art directors, and the like. But we are not so fortunate in our supply of operative camera crews, electricians, studio carpenters, property men, "grips" and the like to back up the efforts of our key technicians.

We have them, but none too abundantly; and as a rule few of them have behind them the long experience of their Hollywood counterparts.

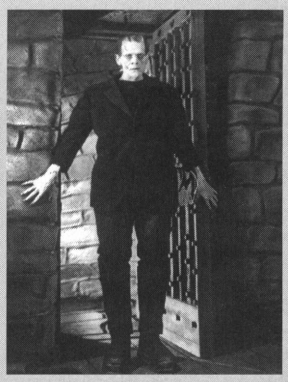
This is in great measure due to the way our industry in England has developed. For a long time, as is well known, it struggled along with little or no encouragement. Then, a few years ago, it suddenly expanded.

The expansion was so rapid that it could quite truthfully be called a "boom," and, like most overly rapid booms, it was followed by a near panic while the industry consolidated its gains.

As a result, we have not been able to offer really consistent employment even to our more experienced technicians, still less to the many less experienced ones.

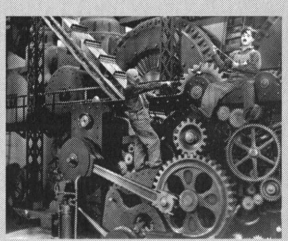
Crews Break Up

Too often, at home, you will start a picture and, when it comes time to assemble the crew you had on your previous film, you will be unable to do so. The operator may have gone to another studio; the young fellow you had just begun to











ASC), *Mildred Pierce* (Ernest Haller, ASC), *A Place in the Sun* (1951, William C. Mellor, ASC)

43 *The Amazing Mr. X (a.k.a. The Spiritualist)* (John Alton), *The Big Parade* (1925, John Arnold, ASC), ***Frankenstein*** (1931, Arthur Edeson, ASC), *Hamlet* (1948, Desmond Dickinson), ***Laura*** (1944, Joseph LaShelle, ASC), *A Matter of Life and Death* (Jack Cardiff, BSC), *The Ten Commandments* (1923, Bert Glennon, ASC, J. Peverell Marley, ASC, Archie Stout, ASC and Fred Westerberg, ASC), *Un Chien Andalou* (Albert Duverger), ASC) *Waterloo Bridge* (1940, Joseph Ruttenberg, ASC)

44 ***Cat People*** (1942, Nicholas Musuraca, ASC), *Footlight Parade* (George Barnes, ASC), *Ivan the Terrible* (1945, Andrei Moskvin and Eduard Tisse), *Key Largo* (Karl Freund, ASC), ***Modern Times*** (1936, Ira H. Morgan, ASC and Roland Totheroh, ASC), *Olympia* (1930, William H. Daniels, ASC), ***The Pearl*** (Gabriel Figueroa, AMC), *The Phantom of the Opera* (1943, W. Howard Greene, ASC and Hal Mohr, ASC), *She Wore a Yellow Ribbon* (Winton Hoch, ASC), *Sparrows* (Hal Mohr, ASC, Charles Rosher, ASC and











Karl Struss, ASC), *The Yearling* (1946, Arthur E. Arling, ASC, Charles Rosher, ASC and Leonard Smith, ASC), **45** ***Blonde Venus*** (Bert Glennon, ASC), *Body and Soul* (1947, James Wong Howe, ASC), *The Four Horsemen of the Apocalypse* (1921, John F. Seitz, ASC), *The Great Ziegfeld* (George Folsey, ASC, Karl Freund, ASC, Merritt B. Gerstad, ASC, Ray June, ASC and Oliver T. Marsh, ASC), *The Invisible Man* (1933, Arthur Edeson, ASC), *Leaving the Lumière Factory* (Louis Lumière), ***Lost Weekend*** (1945, John F. Seitz, ASC), *Ministry of Fear* (Henry Sharp, ASC), *Mrs. Miniver* (Joseph Ruttenberg, ASC), ***The Public Enemy*** (Devereaux Jennings, ASC), *Samson and Delilah* (1949, George Barnes, ASC and Dewey Wrigley, ASC) **46** ***Raw Deal*** (1948, John Alton), *Flying Down to Rio* (J. Roy Hunt, ASC), *Freaks* (Merritt B. Gerstad, ASC), *Grand Illusion* (Christian Matras), *Henry V* (1945, Robert Krasker, BSC), ***Lost Horizon*** (1937, Joseph Walker, ASC), *Open City* (Ubaldo Arata), *Portrait of Jennie* (Joseph H. August, ASC), *Rope* (William V. Skall, ASC and Joseph A. Valentine, ASC), *The Sea Hawk*

British Cinematographer Talks of Hollywood

get trained to be a satisfactory assistant will have dropped from sight; and your electrician may have grown discouraged and gone back to his old job outside the industry — where paychecks come more steadily.

You will have to start in afresh to train a new crew from relative newcomers.

Here in Hollywood it is so different! It seems almost incredible to learn that if any of my American friends finds it for any reason impossible to use his regular crew on a new picture, he can virtually choose blindfolded from the many men available for each job — and find himself with a dependable crew, the youngest of whom will have had 10 or even 20 years of studio experience.

It is equally impressive to see how the same is true on the other side of the cameras as well. Our picture, *Nurse Cavell*, calls for a good number of bit players and extras to represent German soldiers and officers, French and Belgian soldiers and villagers, and British nurses, soldiers and civilians. At home, with the exception of the English parts, we might have some difficulty finding sufficient numbers of convincing-looking Prussians, Belgians, and the like for our requirements, even in the larger supporting parts.

Here, a simple telephone call brings us as many as we need, all of them not only perfect "types," but thoroughly camerawise. I am sure that some of my friends at home will doubt me when I say it would be the same situation had we needed Chinese, Polynesians or Hindus in almost any number!

British Advantage

As far as photo-technical equipment is concerned, there is very little difference between Hollywood and one of the newer British studios. And in some respects, I think the newer British studios may have a bit of an advantage in the fact that they were either completely built from bare ground, or at least greatly expanded within just the last few years, while the studios in Hollywood were built and basically equipped many years ago.

We in England have the same lighting equipment for black-and-white and Technicolor that is familiar in Hollywood. In some cases, we have more of the newer lamps than you, because our studios have had to obtain a complete set of lighting equipment all at once, rather than getting a few new units here and there to replace or supplement old but still useful lamps.

Stage spaces and sets are pretty well on par on both sides of the Atlantic. In fact I believe the Denham studio has one stage as big as, or bigger, than the largest in Hollywood. There are minor differences in such details as power distribution and set-platforming, but, in general, once you get on the stage the only thing to tell you whether you are in Hollywood or England would be the accents of the stage crews.

Cameras Scarce

There is one phase, however, in which Hollywood seems definitely ahead of our British studios. This is in the matter of cameras.

We use many of the same types of cameras — in most instances Mitchells — though in studios where French or German cinematographers have been active there are DeBries, while a few of the smaller plants use the less-expensive, British-built Vintens.

But our studios are not nearly so plentifully supplied with cameras as is common in Hollywood. Some of us have tried to argue that this was false economy, but without much success.

In Hollywood, if some accident happens to the camera you are using, you can have another one, equally dependable and of identical design, delivered to the set in a matter of minutes. If a scene should

require it, you could have 5 or 10 cameras and their crews ready to go on almost as short notice.

In England, we are not so fortunate. In too many cases, a camera mishap or a sudden call for extra cameras can mean exasperating delays to production, simply because the studio is not likely to be equipped with many spares.

In general, the chief differences between Hollywood and English productions is in such little things as that — accessories which we often have to improvise on the spot, but which you in Hollywood not only have already as a result of many years of production activity in your studios, but which you take as a matter of course.

American Influence

Much of the general similarity between Hollywood and British studios, methods and equipment can be credited to the influence of the several American cinematographers and other technicians who have been active in British production during recent years.

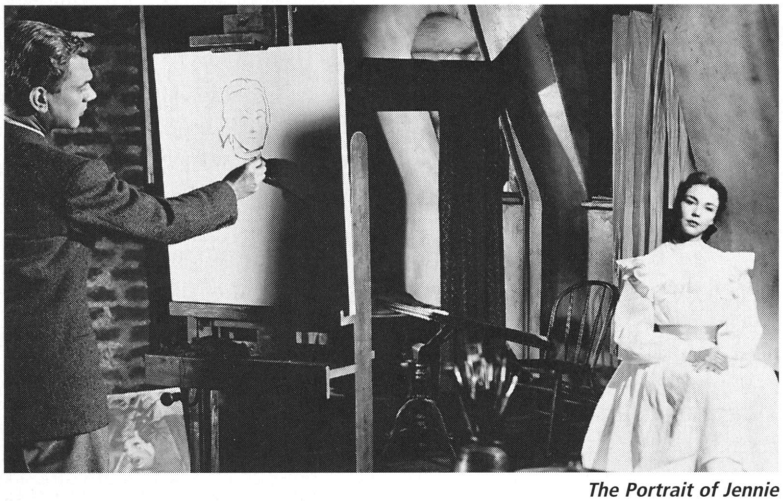
An American art director, Jack Okey, designed and built Denham Studio; other American photographers and technicians have had influence in equipping our studios with the things which Hollywood's years of experience had proved best.

Some of my more impetuous compatriots have expressed resentment at the activities of American cinematographers and technicians in British studios. I have never been able to justify this attitude. I do not believe that the activities of any of the outstanding Americans who have made pictures in our British studios have kept any comparably capable British technicians out of work.

On the other hand, we have much for which to thank our American fellows. At the time when we were most urgently in need of it, they brought to us the most up-to-date knowledge of methods and materials from the world's greatest production center — knowledge which has played an important part in the last few years' progress in British films.

In addition, their work and the salaries paid them have done much to impress our producers with the value of capable photographers. These salaries, in turn, are bearing fruit in a slow but steady improvement in the compensation paid to British cameramen and their crews.

As compared to American standards, there is still much to be done in this direction; but I feel that the influence of the Americans who have made pictures in British studios has done much to start the ball rolling in the right direction. ■



The Portrait of Jennie











(1940, Sol Polito, ASC), *Suspicion* (1941, Harry Stradling, Sr., ASC), *Que Viva Mexico* (Eduard Tisse)

47 ***The Big Sleep*** (1946, Sidney Hickox, ASC), *The Crusades* (Victor Milner, ASC), *A Day in the Country* (1936, Jean Bourgoin and Claude Renoir), *The Dark Corner* (Joseph MacDonald, ASC), *Dark Passage* (1947, Sidney Hickox, ASC), *Earth* (1930, Danill Demutsky), *The Human Comedy* (Harry Stradling, Sr., ASC), *The Hunchback of Notre Dame* (1939, Joseph H. August, ASC), *The Killers* (1946, Elwood Bredell, ASC), ***Macbeth*** (1948, John L. Russell, ASC), *Meet John Doe* (George Barnes, ASC), *National Velvet* (1944, Leonard Smith, ASC), *Royal Wedding* (Robert H. Planck, ASC), ***Scarface*** (1932, Lee Garmes, ASC and L. William O'Connell, ASC), *They Were Expendable* (Joseph H. August, ASC), *The Tramp* (Harry Ensign), *The Wedding March* (1928, Hal Mohr, ASC, Ben F. Reynolds, ASC and B. Sorenson)

49 ***42nd Street*** (Sol Polito, ASC), *A Double Life* (Milton R. Krasner, ASC), ***Duel in the Sun*** (Lee Garmes, ASC, Ray Rennahan, ASC and Harold Rosson, ASC), *A Farewell To Arms* (1932, Charles B. Lang, ASC), *The Flying Deuces* (Art Lloyd, ASC), *Green for Danger* (Wilkie Cooper), *None But the*









Lonely Heart (George Barnes, ASC), *On the Town* (Harold Rosson, ASC), *The Picture of Dorian Gray* (1945, Harry Stradling, Sr., ASC), *The Rules of the Game* (1939, Jean Bachelet), ***Scarlet Street*** (Milton R. Krasner, ASC), *Stella Dallas* (1937, Rudolph Maté, ASC), *Topper* (1937, Norbert Brodine, ASC), *You Can't Take It With You* (Joseph Walker, ASC) **50** *L'Atalante* (Louis Berger and Boris Kaufman, ASC), *Blood and Sand* (1941, Ernest Palmer, ASC and Ray Rennahan, ASC), *Brief Encounter* (1945, Robert Krasker, BSC), ***Broken Blossoms*** (1919, G.W. Bitzer), *Dawn Patrol* (1938, Tony Gaudio, ASC), *The Gold Rush* (Roland Totheroh, ASC and Jack Wilson), *The Green Pastures* (Hal Mohr), *Hell's Angels* (1930, Elmer Dyer, ASC, Tony Gaudio, ASC, Harry Perry, ASC, E. Burton Steene, ASC, Dewey Wrigley, ASC and Zech Wrigley), ***The Lodger*** (1944, Lucien Ballard, ASC), *Los Olvidados* (Gabriel Figueroa, AMC), *Mr. Smith Goes to Washington* (Joseph Walker, ASC), *Of Mice and Men* (1939, Norbert Brodine, ASC), ***Odd Man Out*** (1947, Robert Krasker, BSC), *Sabotage* (1936, Bernard Knowles), *Three Little Girls in Blue* (Ernest Palmer, ASC), *The Westerner* (1940, Gregg Toland, ASC) ■

AC December 1945

James Wong Howe Replies to Comment on Cameramen

Stephen Longstreet, a nationally-known novelist, editor, critic and currently a motion picture scenarist, made passing comment that "brilliant cameramen are the curse of the business" in an article appearing in the August issue of the Screen Writers Guild monthly publication The Screen Writer. *He generated a quick retort from James Wong Howe, ASC.*

Replying with an article published in the October issue of The Screen Writer *under the title "The Cameraman Talks Back," Howe described the important contributions of the director of photography to the overall results of a motion picture production. It's one of the best explanations of the many responsibilities and achievements of the cinematographer, and makes decidedly interesting reading:*

I agree with the criticism of placing camera gymnastics and an epic of sets over, or in place of, story values. I take issue with the statement that this is the fault of brilliant cameramen, and that "dumb cameramen" are a necessity for good pictures, along with less money, a good script, old standing sets and some lights and shadows. Who makes the lights and shadows which creates emotional tones on the screen? They don't come on the old sets. The cameraman makes them.

The trouble with many critics and ex-critics is that for all their skillful talk, they don't understand the techniques of motion pictures. They still criticize movies from the viewpoint of the stage. This results in any number of false appraisals, but the one with which I am concerned here is that this approach leaves out the cameraman entirely. For the stage, there is the audience eye. For movies, with their wider scope and moving ability, there is the camera eye. If these two were one and the same kind of production, the cameraman's part would merely be to set his camera up in front of the action as a static recorder, press a button and go fishing. Let the lights and shadows fall as they will, or better still, paint them on some old sets. The director, the actors, the writers, the producers, the bank — and the audience and critic — would object to this, but there you have the recipe for making movies with a dumb or inanimate cameraman.

This critical ignorance affects the cameraman in still another way. When the photography of a picture is good, the critic usually praises the director for his understanding and handling of the camera. It is true that a good film director knows and makes use of this knowledge, but the good cameraman is not merely a mechanic to carry out his orders. His contribution may be technically expert and artistically creative. His understanding of the dramatic values of the story will carry over into his creation of mood. His manipulation of lights for such effects requires both technical and skillful imagination. His handling of the camera on certain action produced by the writer and interpreted by the director may well contain some added dramatic value of its own, which enhances and further interprets.

Camera gymnastics and strange angles are not what I would call the stock of a "brilliant cameraman." A man of limitations, director

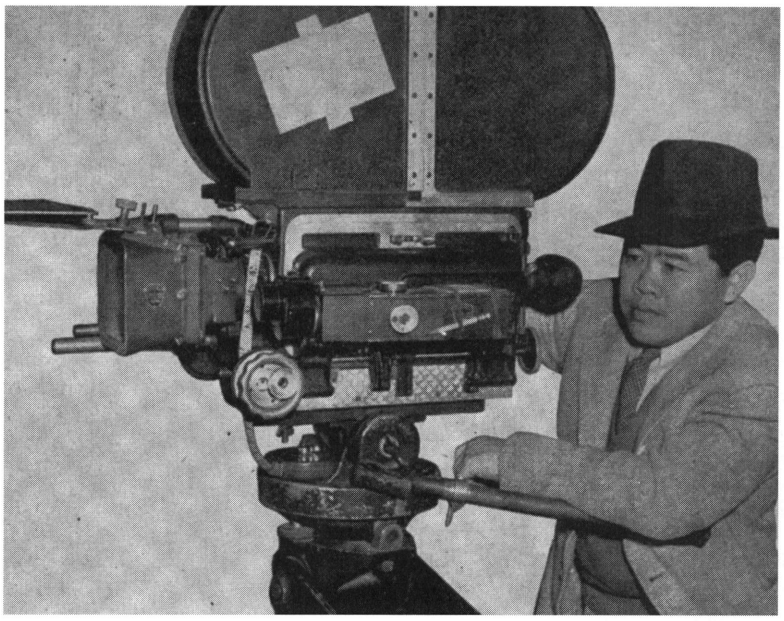
or cameraman, may use these mechanics to cover his thinness of understanding. Some of the most well-known writers possess technical skill and slickness and very little else. A limited writer can do far more harm, or lack of good, than a limited cameraman, because of the power of word and thought. I believe that the best cameraman is one who recognizes the source, the story, as the basis of his work.

Under the best conditions, the writer, the director and the cameraman would work closely together throughout the production. In spite of the present setup, a measure of cooperation is achieved, especially between the director and cameraman. Writers have often consulted me on how to get over certain scenes with lighting and the use of lenses.

Sometimes, as now, I am tempted to detail some of the work of a cameraman in an effort toward further cooperation. By its varied parts, he faces a job of integration on his own. Throughout the picture, there is that shared responsibility of keeping to the schedule; this, with all its other implications, means the executive ability to keep the set moving. He has a general responsibility to fuse the work of all the technical departments under his direction in order to achieve the equality of the story. He is concerned with the makeup and the costume coloring. He works with the art director to see that the sets are properly painted to bring out their best values photographically. (I refer here to black-and-white, as well as color film.) For the same reason, he confers with the set director as to the colors of furniture, drapes, rugs.

The cameraman alone is responsible for the lighting, which is a part of photography but often referred to separately.

Naturally, the cameraman studies the script. His main responsibility is to photograph the actors, action and background, by means of



the moving camera, composition, and lighting — expressing the story in terms of the camera. I believe in a minimum of camera movement and angles that do not violate sense but contribute intrinsically to the dramatic effect desired. "Unseen" photography does not at all mean pedestrian photography; in its own terms it should express emotion, and that emotion, according to the story, may be light, somber, sinister, dramatic, tragic, quiet. Within this frame there may be "terrific shots," but there should be none outside it for mere effect. Photography must be integrated with the story.

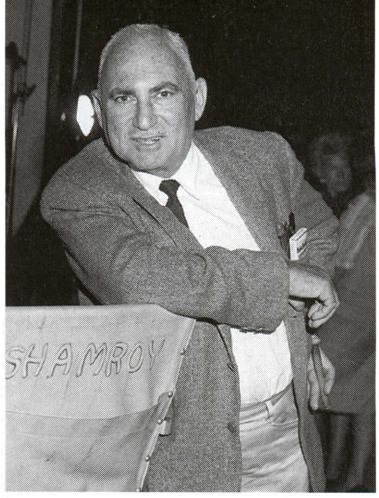
The cameraman confers with the director on: (a) the composition of shots for action, since some scenes require definite composition for their best dramatic effect, while others require the utmost fluidity, or freedom from any strict definition or stylization; (b) atmosphere; (c) the dramatic mood of the story, which they plan together from beginning to end; (d) the action of the piece. Because of the mechanics of the camera and the optical illusions created by the lenses, the cameraman may suggest changes of action which will better attain the effect desired by the director. Many times, a director is confronted with specific problems of accomplishing action. The cameraman may propose use of the camera unknown to the director which will achieve the same realism.

Here is an obvious example: an actor was required by the story to slap a woman brutally, but refused to do this through the many takes the director wanted to make. The woman, furthermore, could not have endured it, her face already swollen after the first take. The scene was a very important one. Omission was not possible, since playing it down destroyed the dramatic effect the director wanted. By use of the camera, I was able to show how this action could be made to appear on the screen in all its reality, without the actuality of the blows.

These things may amount to no more than ingenuity and a technical trick, but they carry over into the dramatic quality of a scene. There are many studio workers behind the scenes whose contributions toward the excellence of a motion picture never receive the credit, because outsiders have no way of discovering where one leaves off and another begins. ■

The Future of Cinematography

by Leon Shamroy, ASC



The motion picture industry has more than its share of skeptics and critics. Twenty years ago, when pictures were on the verge of talking, they protested, "We've gone as far as we can go."

Despite the loud wailings, impossible dreams have become technological practicalities. Pictures talk in vivid colors. New dimensions of realism have been added.

The critics had their innings. With the advent of sound, they proclaimed the art of the motion picture dead. Sound could never be accepted as a substitute for the pantomimist. But the so-called death of an art proved to be a rebirth.

The stature of the motion picture as an art has grown, and with it the art of the cinematographer. For many years, the men behind the camera have sought to erase the popular misconception that they are something more than mechanics who point the camera and get the picture right every time.

A director of photography makes something more than a mere technical contribution to a motion picture. What the writer has created in the written word must be translated to the screen though the eyes and minds of the director and the cinematographer.

With the proper lighting, a mood can be established, an emotion emphasized, and realism heightened. The trend toward realism, however, has put many a cameraman in the position of a tightrope walker. While called upon to inject realism, he knows that to millions of filmgoers, the motion picture is a welcome escape from their everyday trials and tribulations. The basis of this escape is bound up in the illusion of the medium. To destroy this illusion with ultra-realism can mean jeopardizing large investments. The cinematographer frequently finds himself in the awkward and unhappy position of serving two masters. The critics then scream, "Art is being compromised!" But is it? While it's the direct responsibility of the cinematographer to guarantee the investment of the film industry, indirectly he feels a responsibility to those millions who look to the screen for that intangible something. Call it entertainment, escape from torturous reality, relief from domestic worry. Whatever the name put on this appeal, the illusion must be preserved. And so the people must be pleased. The cameramen must make their heroines as the audience prefers them — young and beautiful, complete with smooth silken complexions — and make the heroes youthful, handsome and virile.

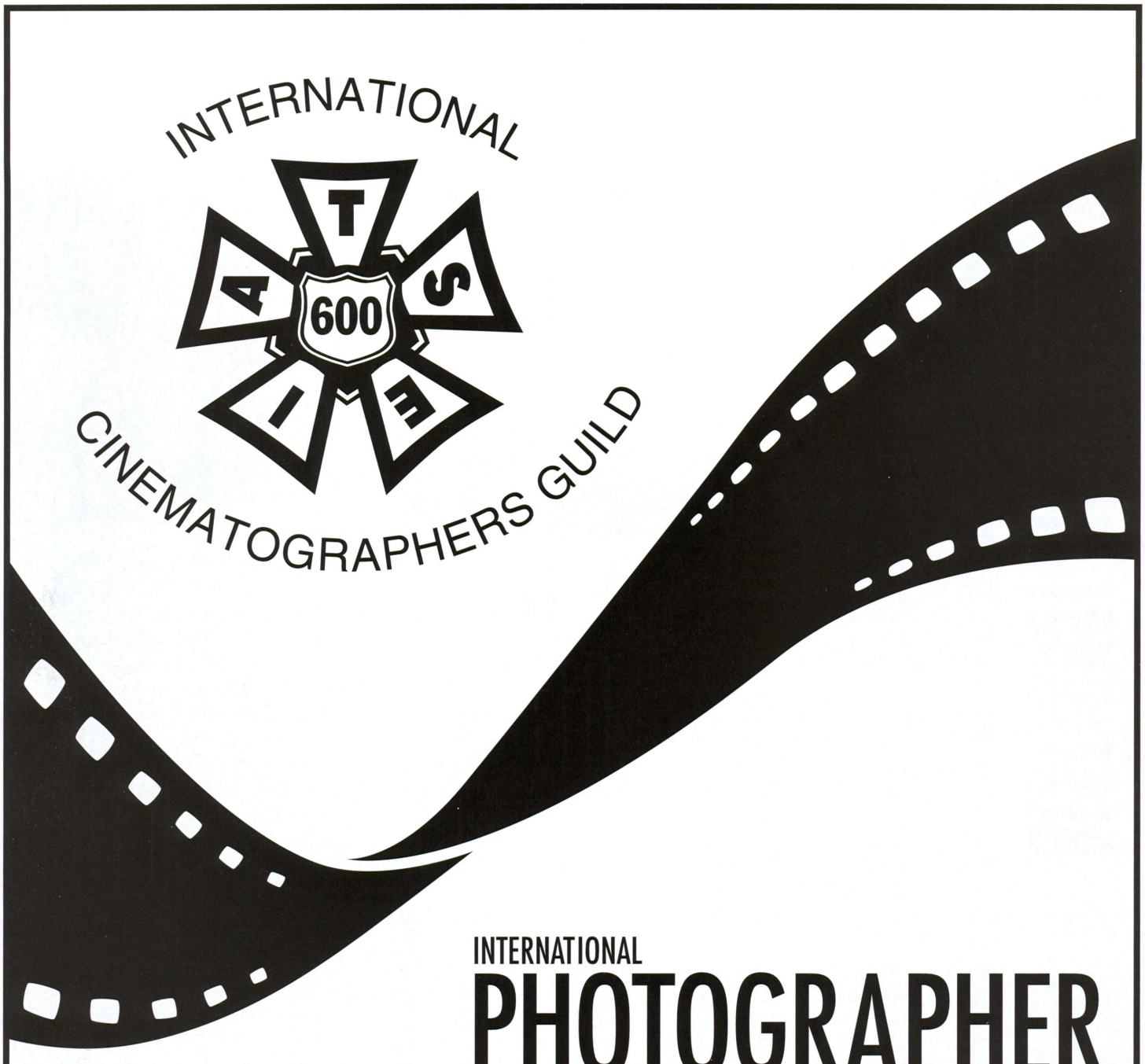
Even though unfettered by economic restrictions imposed upon him by the public's tastes, the creative cinematographer continues to experiment. He looks for new ways of intensifying mood and projecting the emotions of the actor beyond the screen. The limitless palette of color points the way to new avenues of photographic expression.

In the face of contemporary skeptics, the collective imagination of cinematographers is stimulated by new engineering developments that loom on the horizon. Not too far off is the "electronic camera." A compact, lightweight box no larger than a Kodak Brownie, it will contain a highly sensitive pickup tube, 100 times faster than present-day film stocks. A single lens system will adjust to any focal length by the operator merely turning a knob, and will replace the cumbersome interchangeable lenses to today. Cranes and dollies weighing tons will be replaced by lightweight perambulators. The camera will be linked to the film recorder by coaxial cable or radio. The actual recording of the scene on film will take place at a remote station, under ideal conditions. Instead of waiting for a day — or days, in the case of shooting with color — electronic monitor screens connected into the system will make it possible to view the scene as it is being recorded. Control of contrast and color will be possible before development.

It is not to difficult to predict the effect of such advancements on the production of motion pictures. Economically, it will mean savings in time and money. Since the photographic results will be known immediately, it will be unnecessary to tie up actors and stages for long periods of time. The size and sensitivity of this new camera will make photography possible under ordinary lighting conditions. Shooting pictures on distant locations will be simplified. generators, lighting units, and other heavy equipment will be eliminated, thus doing away with costly transportation.

In terms of cinematographic art, it will be place a more refined instrument in the hands of the cameramen, an instrument of greater sensitivity and mobility.

Do you hear the skeptics shouting "IMPOSSIBLE"? ■



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1 *Lawrence of Arabia*

Freddie Young, BSC

The epic *Lawrence of Arabia* is perhaps the crowning achievement in the long and illustrious career of director of photography Frederick A. "Freddy" Young. Cinematographers the world over were saddened when Young, one of the best-loved members of the profession, died last December 1 in London, at the age of 96.

Young's career behind the camera, which began in 1917 and ended with his retirement in 1992, paralleled much of the history of motion pictures. He had many friends in the ASC, which honored him with its International Award on February 21, 1993.

Born in London in 1902, Young got his first job in 1917 in a munitions plant, but left after a few weeks to work as a lab technician at Gaumont Studios. Within a year, he became assistant cameraman to Arthur Brown, for whom he loaded cameras, drove the camera car, projected rushes, developed film in a bucket, and sometimes cranked the second camera. "The roof of the studio was made of glass," Young recalled. "We exposed film by the light of the sun. There were just a few lamps from France. It was all flat, overhead light, and we lit for illumination. No one ever thought about lighting as an art form. If a cloud came over the sun, the set would go very dark!"

Young got his first credit in 1922 for *Rob Roy,* and first served as a fully-fledged cinematographer on the 1926 film *The Flag Lieutenant.* That same year, M.A. Wetherill asked Young to photograph *Victory 1918.* A year later, he filmed England's first domestic sound film, *White Cargo.* He soon joined Herbert Wilcox's British Dominion Film Corporation, where he remained for 10 years as chief cameraman. His pictures there included *Goodnight Vienna, Nell Gwyn,* and — in 1937 — *Victoria Regina,* a big picture which convinced MGM to borrow him for *Goodbye, Mr. Chips,* an international hit. Young then moved to Hollywood, where he photographed two spectacles for RKO Radio, *Sixty Glorious Years* and *Nurse Edith Cavell.* Upon the outbreak of World War II, Young returned to England, where he made *49th Parallel* (a.k.a. *The Invaders*) and *The Young Mr. Pitt.* He then served for three years in the Royal Army as a captain in charge of training-film production.

Mustered out in 1944, Young became chief cinematographer for 15 years at MGM-British Studio at Boreham Wood. His films there included *Edward, My Son* with Spencer Tracy and Deborah Kerr, *Caesar and Cleopatra* with Vivien Leigh and Claude Rains, *Invitation to the Dance, Lust for Life, I Accuse* and *Indiscreet.*

In 1949, Young helped to found the British Society of Cinematographers, and served as its first president. Ten years later, David Lean, learning that Young had left MGM, hired him to film *Lawrence of Arabia.* Shot in Spain and Majorca and photographed in 70mm Panavision and Eastman Color, it became a huge success.

Lawrence successfully blends spectacle, adventure, history and characterization in depth, adding up to one the most satisfying films of the century. Its greatness stems from a fine script by Robert Bolt and the brilliant work of British director David Lean, who was, as Tony

Thomas notes in *The Great Adventure Films* (Citadel, 1976), "immeasurably aided by Freddie Young, one of the most creative photographers in the history of the cinema." It can be said without qualification that imaginative visuals are a major reason that it is possible to stay with this movie through its entire 222 minutes without ever growing restless.

Lawrence was in production for almost two years under frequently difficult conditions. The first location, Jebel Tubeiq, was an intolerably hot, uninhabited area near the Saudi Arabian frontier, 250 miles east of the Red Sea port of Aqaba and 150 miles from the nearest water. The last inhabitants, a group of monks, had abandoned their monastery in the 1600s. The picture's famed action scenes were made among the seemingly limitless red sand dunes. Headquarters were established in Aqaba, but great difficulties were encountered in getting personnel and equipment there from London and Hollywood.

Cairo, Jerusalem, Damascus and Aqaba had become too modern to use in the movie, so they were reproduced in Spain as they had appeared in 1916. A big battle scene in which a Turkish regiment is massacred was filmed in Morocco. Some of the most dramatic photography appears in scenes shot in Spain, in which Lawrence leads his forces against the Turkish Hejaz Railway.

Probably the most famous single image is the lingering scene in which Omar Sharif, riding a camel, is first seen as a tiny spot in a mirage on the horizon. In the foreground, Lawrence (Peter O'Toole) and an Arab youth are drawing water from a well when they notice the wobbly, distorted shape coming toward them. Shimmering in waves of heat and strangely liquid colors, the rider steadily approaches the well. As he gets closer, he is still indistinct, but



Photo by David Hattenstone

the ominous thumping of the camel's feet can be heard. Sharif finally emerges from the mirage, raises his rifle and shoots the Arab. The long scene carries a strong element of dread and suspense.

Before actual filming began, Lean had told Young that he wanted to show a mirage in the picture. Because mirages are usually seen only in the distance, Young decided that his best bet would be to bring one close with an extra-long telephoto lens. While he was at Panavision, he saw a huge telephoto which Robert Gottschalk described as a 430mm long-focus lens. This lens was used to make the mirage scene, which was shot in Jordan. Sharif was sent off to a distant mark where he appeared to be a mere pinpoint. Lean told him to ride straight toward the camera, and the entire journey was photographed from only one position.

Young's camera operator was Ernest Day, BSC, while second-unit photography was handled by BSC fellows Skeets Kelly, Nicolas Roeg and Peter Newbrook. All of these men became leaders in British cinematography.

The photographic grandeur of *Lawrence of Arabia* spurred even the usually blasé *Time* magazine to a rather poetic response: "Time and again the grand rectangular frame of the Panavision screen stands open like the door of a tremendous furnace, and the spectator stares into the molten shimmer of white golden sands, into blank incandescent infinity as if into the eye of God."

Lawrence of Arabia garnered a well-deserved Academy Award for Young — as did the next two pictures he made with Lean, *Doctor Zhivago* and *Ryan's Daughter.* Over the course of his career, the cinematographer also received Academy Award nominations for *Ivanhoe* (1952) and *Nicholas and Alexandria* (1971).

In 1972, Young was named a Fellow of the British Academy for Film and Television Arts, the only person to receive that honor since Alfred Hitchcock. His other honors included an Emmy for a lavish television rendering of *Macbeth* (1963), the Guild Award of Excellence from the British Academy of Film and Television Arts, and the Golden Lion Award of the Venice Film Festival.

In addition to Wilcox and Lean, Young worked with many other famed directors. His favorite, he said, was John Ford, because of "his willingness to try unconventional photographic effects." Of his own work, he liked *Doctor Zhivago* best "because it enabled me to try the greatest variety of camera techniques." In 1986, he directed a small picture, *Arthur's Hallowed Ground,* which told the story of an elderly cricket player.

In addition to articles in industry magazines, Young co-authored the book *The Work of the Motion Picture Cameraman* (1972); at the time of his death, he had been working on a memoir titled *Seventy Light Years: A Life in Movies,* which was scheduled for publication last month.

Young's first wife, Marjorie, died in 1963. He is survived by his second wife, Joan, and a son, David.

—George Turner

Opposite: Lawrence (Peter O'Toole) and Ali (Omar Sharif) acknowledge the photographic mastery of the late, great Freddie Young (this page, at home in England with his many awards).



An impassive Don Corleone (Marlon Brando) accepts a gesture of respect from Bonasera (Salvatore Corsitto), under the watchful eye of Sonny (James Caan).

2 *The Godfather*

Gordon Willis, ASC

Gordon Willis's work in *The Godfather* is so revered that it once prompted a fellow director of photography, Tom McDonough, to refer to it in his memoir, *Light Years*, as "the Sistine Chapel of cinematography." McDonough is only half-joking when, at the conclusion of his book, he offers a plea to Willis on behalf of cinematographers everywhere: "Saint Gordy, pray for us sinners."

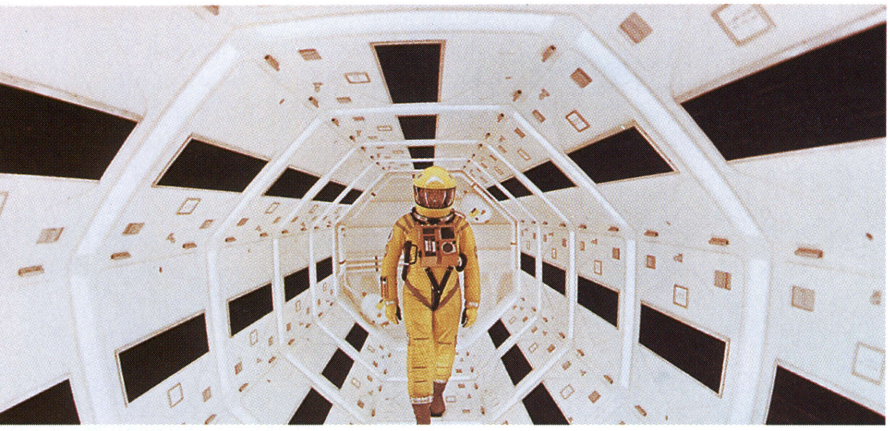
Simply put, *The Godfather* (see *AC* June '71) is one of cinema's most exquisitely photographed films, a sumptuous gangster Guignol that only improves with repeated viewings. But Willis himself, an unfailingly humble and unpretentious man, maintained recently that his famous lighting strategy for the film emerged almost by accident, during a simple makeup test with Marlon Brando. "We just put Marlon at a table and added this overhead lighting to make his makeup work," he revealed. "That's how that whole approach originated. When something like that happens, you can always romanticize it and come up with other reasons for why you did it, but in this case there *were* no other reasons! I made a decision to light Marlon in a manner I was familiar with, but we then tried to make the whole movie work that way; overhead lighting was not a new idea, but it was a new idea to extend it for an entire picture. During the actual production, I started out with a relatively simple form of overhead lighting, using a batten containing some nook lights that were bounced into these hanging skirts of bleached muslin. I later designed more sophisticated units that we also used on the subsequent *Godfather* films."

The fact that Willis even worked on the production is another of film history's great strokes of fate. The cameraman was toiling away at a commercial production company, and had only been a feature cinematographer for two years, when producer Al Ruddy phoned him about the *Godfather* project. "To this day, I have no idea why I was called," Willis admitted. "I was in New York, and I guess I had a good reputation. I wasn't really interested at first, and I actually passed on the project." Fortunately, Ruddy eventually made Willis the proverbial offer he couldn't refuse. The cinematographer added that Paramount Pictures' initial plans for the film were relatively modest in scope: "They were just looking to make an inexpensive mob movie."

Ambitious young director Francis Ford Coppola had other ideas, however. He envisioned the tale of the Corleone clan as an epic take on Shakespeare's *King Lear* — a familial drama of operatic proportions that would explore an array of meaty themes, including loyalty, betrayal, and the corrosive effect of absolute power.

From this creative cauldron, classic cinema emerged. After close consultations with Coppola and production designer Dean Tavoularis, Willis opted to underexpose his negative and work with a "rotogravure" color palette that emphasized black, brown, and soft amber tones. To further simulate the film's 1940s milieu, he and Coppola also abandoned all modern filmmaking tools, such as zoom lenses, opting instead to frame their tale in a "tableau style" of painterly, classically composed frames (the one exception to this rule was the famous opening pullback shot). The production received ample assistance from the New York City Film Commission, which blocked off streets, rerouted traffic, and provided police details for crowd control. A skeleton crew later traveled to Italy to film scenes of Michael Corleone's exile in Sicily.

The resulting picture became a cinematic sensation that shattered box-office records, won three Oscars (including Best Picture), spawned two stylish sequels, and earned a reputation as one of the most entertaining (and quotable) films of all time. — Stephen Pizzello



3 *2001: A Space Odyssey*

Geoffery Unworth, BSC

It was billed as "an epic adventure of exploration and discovery," but to the exploding hippie culture, which was just on the verge of mainstream acceptance in the watershed year of 1968, Stanley Kubrick's *2001: A Space Odyssey* (see *AC* June '68) became the "ultimate trip." Much to MGM's relief, movie theaters became the place to "tune in, turn on and drop out" (there had been rumors that the studio initially wanted to dump the film and write off the monolithic and seemingly plotless production). But what audiences saw then, and what the world has come to appreciate now, is that *2001* — by pushing filmmakers' tools to their limits, and inventing new ones that have only recently been replaced by digital technology — represented the dawn of a new era in cinematic storytelling.

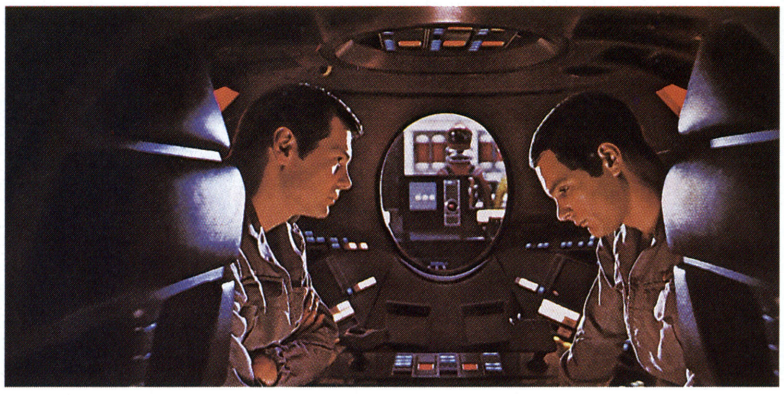
Dennis Muren, ASC recently shared his thoughts about the enduring quality of *2001*'s amazing visuals: "I remember walking out of the theater thinking, 'I don't have a clue how they made that movie.' The lighting, the sets and the effects still hold up after all these years — they're flawless. They couldn't do a lot of the things we can do today — such as varying the speed of the motion control during a shot — but the way the shots were designed, it didn't matter. It was like we [as viewers] were suddenly in the future — everything looked totally real. And it still does today."

The mindblowing effects were just one of the picture's many virtues. Its overpowering impact resulted from a confluence of talents, particularly the masterful camerawork of Geoffrey Unsworth, who worked nonstop for two years before turning over the reins to his brilliant assistant, John Alcott, BSC, who was credited with additional photography. (Kubrick elevated Alcott to full-fledged director of photography on his next film, *A Clockwork Orange*, beginning a tradition of promoting from within; when Alcott opted not to shoot *Full Metal Jacket*, Kubrick hired his assistant, Doug Milsome, BSC.) The photographic challenges on *2001* were indeed enormous, and despite the rigors of shooting within a soundstage transformed into the African veldt (using breakthrough front-projection technology), or dollying inside a real centrifuge revolving at three miles per hour, the camera never so much as shudders.

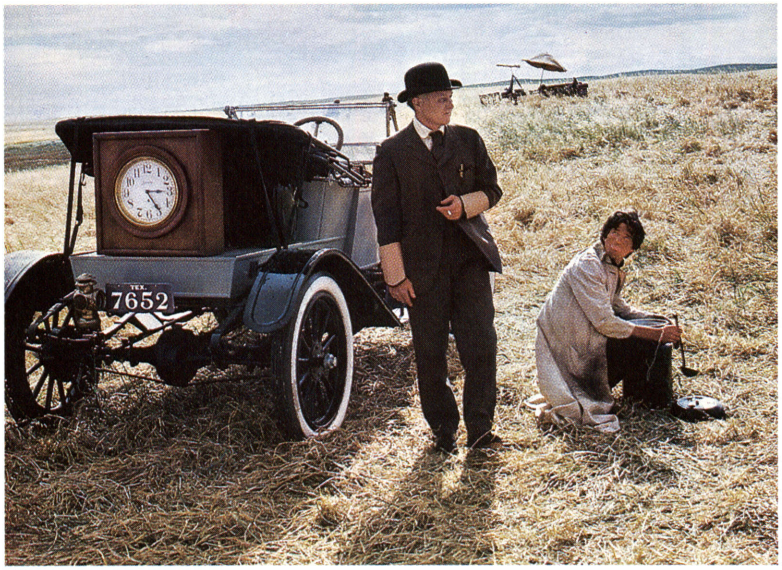
Among its other jaw-dropping moments, *2001* boasts the most extreme jump-cut in motion picture history (when Moonwatcher's bone club transforms into a nuclear satellite weapon in midair). It also benefits from the sullen, effete presence of HAL, the technological embodiment of mankind's collective neuroses. The imagery ranges from the mundane (the zero-gravity toilet aboard the spinning space station) to the awe-inspiring (the Clavius moonbase with its excavated monolith), as viewers are slowly brought face to face with the great unknown in the climactic Stargate sequence.

Kubrick's film is unique in the pantheon of great pictures; every detail is so well-researched and observed that the viewer accepts the tale's sense of absolute reality at every moment. As *2001* author Arthur C. Clarke once observed, if anyone ever wants to make a more accurate film about the cosmos and its mysteries, "They'll have to shoot it on location!"

— Ron Magid



Left: The antiseptic interior of the space station *Discovery* serves as the ominous backdrop to an interstellar showdown between man and machine. Below: In the seemingly safe confines of a soundproof space pod, astronauts Poole (Gary Lockwood) and Bowman (Keir Dullea) discuss their options, unaware that HAL (beyond portal) can read lips.



4 *Days of Heaven*

Néstor Almendros, ASC

An exquisite example of period photography, *Days of Heaven* teamed director Terrence Malick (who had made a stunning debut with 1973's *Badlands*) and master cinematographer Néstor Almendros. In spinning a turn-of-the-century yarn about two itinerant farm workers (Brooke Adams and Richard Gere) who become enmeshed in a tragic love triangle involving their boss (Sam Shepherd), the picture offers some of the most stunning "magic-hour" vistas ever recorded on film. Writing for *AC* in June of 1979, Almendros offered the following reminiscence:

"In filming day exteriors, the normal procedure is to use reflected or artificial light to fill the shadowed areas and thereby reduce the photographic contrast. In this film, however, Terrence Malick and I felt it would be better to use no lights, and to expose for the shadow areas. The effect of this was that the sky would come out overexposed, thereby losing its blue hue. This was an effect that pleased Terry.

"I decided to forgo the use of any artificial of reflected light, and to split the difference between my reading for the sky and my reading for the shadows, resulting in faces being slightly underexposed, and the sky being slightly overexposed, thereby taking away the intensity of blue, yet not letting it burn white.

"Surprisingly for me, this creative decision became a primary point of dissension among the film's technicians.

"The circumstances of a European cameraman working on a major studio film precluded me from being able to select the technicians who would work for me. Instead, the producers assigned the technicians to the production. With very few exceptions, the crew was made up of the typical Hollywood old guard, [who] were accustomed to a very highly polished form of lighting and photography.

"Since we could see the rushes immediately and it was apparent that the results were adding to the visual presentation of the story, we became more and more daring, using less and less artificial light, preferring the raw, natural images. Some of the crew began to see what we were doing, and little by little, [they] joined our interpretation. Others never understood.

"If on the one hand there were conflicts with some of the technicians, on the artistic level I had the good fortune of working with some of the very best collaborators I could have imagined.

"Once [it] became apparent that I would not be able to finish the film [due to prior a comittment to shoot *The Man Who Loved Women*], I thought of all the great directors of photography in America, searching for somebody who would be appropriate to replace me. I thought of Haskell Wexler, ASC, a man whose work I greatly admire, and a man I also consider a friend. I asked him if he would complete the work I had begun; fortunately for me and the project, he accepted.

"He overlapped with me for one week, observing the style we were using, screening all of our rushes, and sensing what we were after.

"In the end, I had shot for 53 days; Haskell shot for another 19. I don't believe anyone can tell the difference between what I shot and what he did. The continuity he achieved is a remarkable achievement, [and] an example of his immense talent for which I am forever thankful."



The passage of time proves ruinous to Bill (Richard Gere), an itinerant farm worker whose unabating love for Abby (Brooke Adams, right) leads to his downfall.



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of Cinematographers:
best wishes on your 80th birthday

– the Sachtler Group



Photos by David James

5 *Schindler's List*

Janusz Kaminski, ASC

After two decades of spectacular success that earned him a reputation as Hollywood's top maker of fantasy and action-adventure fare, Steven Spielberg stunned the world's moviegoers with *Schindler's List,* a harrowing depiction of the Holocaust. Although Spielberg had previously tackled serious material with *The Color Purple,* nothing on his resumé had prepared viewers for the harsh realism of *Schindler's,* which forever altered audiences' perception of the director as simply a master entertainer. The Academy of Arts and Sciences honored Spielberg with his first Best Director Oscar at the 1994 ceremony, which also served as a coming-out party for Polish cinematographer Janusz Kaminski, who took home a statuette for his impeccable black-and-white photography. The film also garnered five other Oscars, including those for Best Picture, Film Editing, Original Score, Art/Set Direction and Adapted Screenplay, amid a grand total of 12 nominations.

In a January 1994 *AC* interview, Kaminski detailed a key sequence that summed up the film's emotional impact: "There was a scene at Birkenau, where a group of women are being led into a transfer room. They've been stripped of their identity and deprived of their privacy. Like those women, we don't know if they are going to live or die. They've been told that they'll be showered and clothed in uniforms. But as we all know, very few got what they were promised. The Nazis liked to create a facade of normalcy to avoid a panic among the prisoners. Also remember that during the transport to Auschwitz and Birkenau, these people were living for days in tightly packed cattle cars, without food or ventilation. Spielberg had some specific ideas about how he wanted to handle this scene photographically. I placed single light bulbs in the ceiling and along the walls. When the women were led into the shower room or gas chamber, all of the lights suddenly shut off, leaving the women in complete darkness. There were screams for five to 10 seconds until a strong spotlight came on and pointed toward the camera. The light outlined the nude women crowded next to each other, holding each other for comfort, not knowing whether they'll live or die. All of a sudden, the sprinklers came on and the water sprayed out. It's the most amazing scene. It's so emotional that even now, it's tough for me to hold a strong voice.

"What Steven did was to mimic the Nazi sadism so that the audience, like the women, are in the dark, afraid for what might happen. It was not manipulative or sentimental. It was real. And the crew's reaction on the set was hatred — hatred for the ignorance that could do this to a group of people. But look, it's still happening in the former Yugoslavia. Same stuff, 50 years later. What did we learn? Nothing. That's the purpose of the movie — to remind people that it's so easy to slip into the same thing."



Above: Accountant Itzhak Stern (Ben Kingsley) and his fellow prisoners of war face an uncertain fate. Right: Oskar Schindler (Liam Neeson) reflects upon his conscience.

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A U.S. Army chopper lands on a blasted battlefield in war-torn Vietnam.

6 *Apocalypse Now*

Vittorio Storaro, ASC, AIC

A sprawling, existential allegory about the Vietnam War experience, *Apocalypse Now* is one of film history's most hallucinatory epics. On paper, the picture's director-cinematographer pairing was a match made in heaven, teaming two of the film world's most flamboyant visionaries: Francis Ford Coppola and Vittorio Storaro. Once shooting in the Phillipines got underway, however, the production was famously plagued by bad weather, budget concerns, and bizarre occurrences on the set. What emerged from this chaos was a fascinating film filled with spectacular images, some of which were contributed by second-unit cameraman Stephen H. Burum, ASC. Following are excerpts from *AC*'s May 1980 interview with Storaro:

Did director Francis Coppola ever tell you why he wanted you to shoot *Apocalypse Now*?

The first time I met him was when he visited the set of *Last Tango in Paris*. He was there to visit with [Bernardo] Bertolucci. Later, we met a second time while he was doing a film in Rome. We spoke for about two to three hours. I was surprised by how easily we communicated, even with my poor English. I felt very close to him, like a brother, in a very short time. Later, when he wanted me to do *Apocalypse Now*, he told me that he got the idea of asking me because he admired the work that I had done on *The Conformist*. When we talked, he made me feel that he respected my judgment and would give me the freedom to express myself. That is why I accepted the assignment.

What was the concept or the look that you were trying to achieve with *Apocalypse Now*?

The original idea was to document the impact of superimposing one culture on another. I was trying to show the conflict between technical and natural energy — for example, the dark, shadowy jungle, where natural energy reigns, compared to the American military base, where big, powerful generators and huge, probing lights provided the energy. There was a conflict between the technology and nature as well as between different cultures. I tried to use the lights and camera to suggest this. Mainly, we tried to use color and light to create the mood of conflict in subtle ways — the way that a red fire in a camp contrasted with a blue or black gun in the foreground; or the way that the color of a weapon stood out against a sunset; or how an American soldier with a blackened face was seen against the green jungle or blue sky.

You mention the use of light and color. How about the darkness that you employed in scenes involving Marlon Brando?

The role that Brando plays represents the dark side of civilization, the subconscious, or the truth that comes out of the darkness. He couldn't be here like us, sitting here and talking. He had to be like an idol. Black is like a magic color. You can reveal patterns and moods against a dark scene that aren't possible in other ways. When I saw this scene in my head before we shot it, I pictured Brando always in shadows or the dark side. Coppola gave me the freedom to express this idea.

You worked so long on this film [from February 1976 to May 1977], and so much good footage must have ended up on the cutting room floor. Does that bother you?

I don't worry about what is cut. Maybe the footage that was cut was important because it created a mood leading to something we shot that was used. You make a movie step by step. What counts in the end is what's on the screen.

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7 *The Conformist*

Vittorio Storaro, ASC, AIC

One of Vittorio Storaro's earliest attempts at "writing with light in movement," *The Conformist* benefits from a deft interplay of luminance and darkness that demonstrates the virtuoso cinematographer's exceptional prowess.

Alberto Moravia's Fascist-era novel was adapted for the silver screen by Italian filmmaker Bernardo Bertolucci, who was barely 30 when he embarked upon the project. The film's oblique narrative traces a philosophy professor's quest for that elusive state of being that often drives men to madness: "the impression of normalcy." Desperate for acceptance, repressed homosexual Marcello Clerici (Jean-Louis Trintignant) weds a frivolous woman and joins Mussolini's secret police on an assignment to execute his ex-mentor, Luca Quadri (Enzo Tarascio).

Drawing inspiration from Thirties cinema, Storaro frames exquisite compositions that underscore the subtext of Clerici's existential angst: expansive tableaus of functionalist Fascist architecture that dwarfs citizens; a cat-and-mouse game between sunlight and shadow that mirrors a confrontation between Quadri and Clerici in the teacher's study; Marcello's dispassionate gaze as he peers through a glass pane and spies his wife (Stefania Sandrelli) and Anna Quadri (Dominique Sanda) dancing a tantalizing tango.

Though Storaro had yet to formulate his theories on the significance of various colors — which, he asserts, can reflect symbolic subtexts and emotional states — the imagery in *The Conformist* illustrates his thematic use of contrast; throughout the picture, the cinematographer creates a visual conflict between reactionary Fascism and democratic freedom. "We wanted to show the kind of conflict [that exists] between a stated reality and a real reality," he asserted in the book *Masters of Light.* "I wanted to show through light the idea of claustrophobia, of being caged. I used the idea that the light could never reach the shadows, so that there was a distinct separation between the shadows and the light. That's why I was using the kind of technique that would create very sharp shadows and very sharp light in the first half of the picture [which is set in Rome]. Now, when the characters go to Paris — Paris for us was a free nation; it was where everybody was going to escape from the dictatorship — I expressed this sense of freedom by letting the light go into the shadows. I completely changed the style of the light and I gave the audience colors that they hadn't seen before. *The Conformist* is almost a black-and-white picture in the beginning. But in the last half in Paris, you see differently. You see the light going into shadows. It's like the two sections... are united once more."

Coming on the heels of Bertolucci and Storaro's first collaboration (on *The Spider's Strategem*), *The Conformist* signaled the blossoming of one of cinema's most fruitful partnerships. The duo had first met some six years earlier on the set of Bertolucci's *Before the Revolution,* on which the 23-year-old Storaro served as an assistant cameraman. In the 30 years since, the two have produced a string of lushly photographed pictures that include *Luna, 1900, The Sheltering Sky, The Last Emperor* and *Little Buddha.*

— Andrew O. Thompson



Above: En route to accepting an assassination assignment, Marcello Clerici (Jean-Louis Trintignant) catches secret agent Mangianello (Gastone Moschin) with a crazed Fascist moll. Right: Clerici ponders his true calling.

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In a symbolic penance for his sins, Jake La Motta (Robert De Niro) absorbs another sock on the jaw.

8 *Raging Bull*

Michael Chapman, ASC

The sport of boxing offers everything an ambitious filmmaker could want for the screen: physical and psychological conflict, drama, and suspense. Ironically enough, director Martin Scorsese, never a fan of the "sweet science," had to be pressured into helming *Raging Bull* by his onscreen alter ego, Robert De Niro, who brought him the source material: a confessional book by former prizefighter Jake La Motta.

Still reeling from the failure of his lavish musical feature *New York, New York,* Scorsese found himself attracted to the true story's themes of self-immolation and redemption. As he noted in the book *Scorsese on Scorsese,* his own personal travails allowed him to relate more closely to the suffering endured by La Motta and those in his violent orbit: "I understood then what Jake was, but only after having gone through a similar experience... I was fascinated by the self-destructive side of Jake La Motta's character, his very basic emotions. What could be more basic than making a living by hitting another person on the head until one of you falls or stops?"

Once he agreed to film La Motta's story, Scorsese assembled some other old friends to help him bring the project to life: screenwriter Paul Schrader, editor Thelma Schoonmaker, and cinematographer Michael Chapman, all of whom had lent their skills to *Taxi Driver.*

The result of this collaboration is one of the most brutal and beautifully shot monochrome pictures of the modern age. In addition to rendering the noir trappings of New York's boxing heyday, Chapman used an artful combination of techniques — including Steadicam, handheld camera, special rigs, variable framerates, freeze-frames and a specially designed flashbulb simulator — to infuse the film's fight scenes with a balletic energy that lent the combatants' vicious exchanges an operatic grandeur.

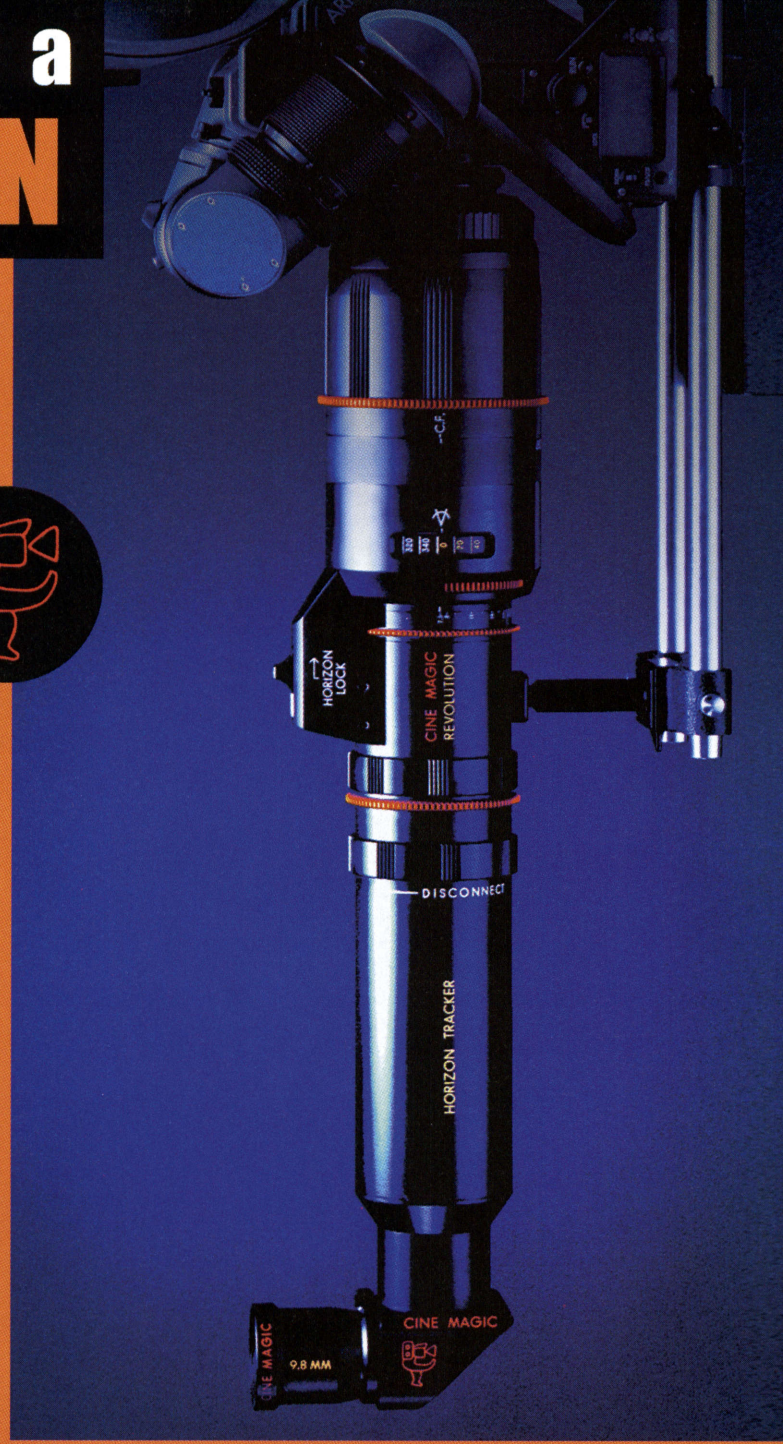
While prepping the project, Scorsese and Chapman drew inspiration from several classic black-and-white films, including *Double Indemnity, Sweet Smell of Success* and the Italian neo-realist classic *Salvatore Guiliano.* They were also influenced by the work of the great still photographer Weegee, who made his name working for the *New York Daily News* during the 1930s and '40s. In addition, Chapman also screened several one- and two-reeler shorts by Buster Keaton: *The Neighbor, The Fence,* and *The Blacksmith Shop.* As the cinematographer told one interviewer, he remembered these short films as being "very clean, and somehow dealing with the fact of [photographic] separation without having to resort to backlight: just beautiful black-and-white with things in space separated entirely by gray scale."

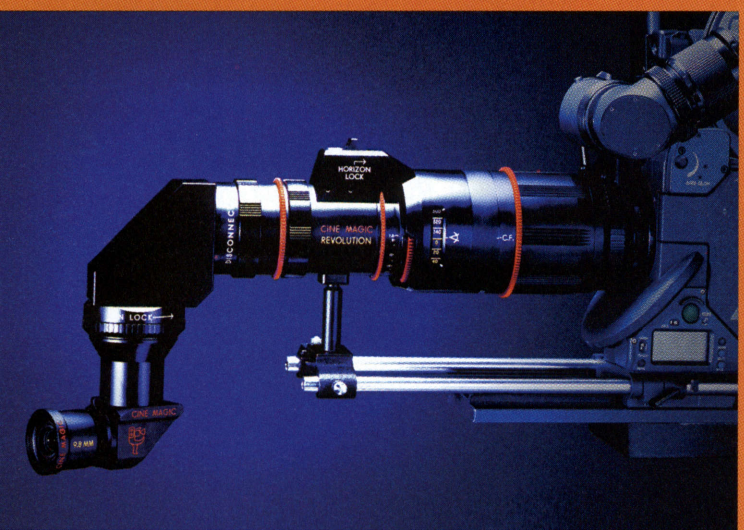
Using a wide array of lighting instruments, Chapman effectively illuminated the full arc of La Motta's spiritual fall and eventual salvation — a transformation that was physically embodied by De Niro, who famously packed on poundage to portay the fighter in his later, dissolute years. In one of the film's key scenes, La Motta, in his new incarnation as a nightclub entertainer, performs a riff on Marlon Brando's "I coulda' been a contender" speech from *On the Waterfront.* As *AC*'s readers have confirmed, *Raging Bull* is indeed a heavyweight achievement.

—Stephen Pizzello

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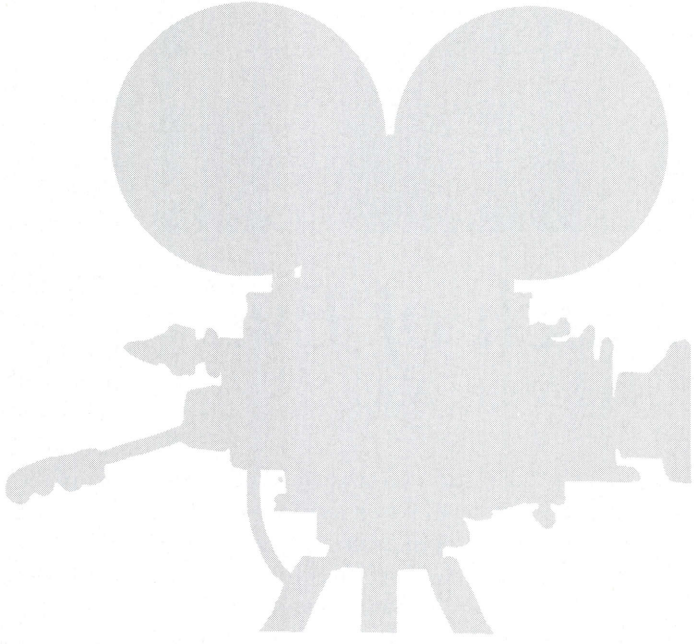
The mysteriously alluring Rachael (Sean Young) proves that appearances can sometimes be deceptive.

9 *Blade Runner*

Jordan Cronenweth, ASC

See page 158 of this issue for a full reprint of the 1982 *AC* article on Cronenweth's photography.

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Corrupt cop Hank Quinlan (Orson Welles) uses dubious tactics to police his turf.

10 *Touch of Evil*

Russell Metty, ASC

The thriller *Touch of Evil* is a 20th Century American version of a tale that might have been told by Victor Hugo or Charles Dickens. The spinner of this yarn was writer/director Orson Welles, who also co-starred with Charlton Heston, Janet Leigh, Marlene Dietrich, Joseph Calleia and Akim Tamiroff. Filmed mostly in the colorful oceanfront city of Venice, California, it tells of vice, murder and corruption in the fictitious border town of Los Robles.

Russell Metty, a husky cinematographer who had worked with Welles on *The Stranger* in 1946, was responsible for mood-lighting the streets and byways of Venice. Most of the exteriors were filmed night-for-night, with plenty of menacing shadows and garish lights. Trash was dumped everywhere and wind machines kept it swirling. There are many deep-focus shots looking up and down long streets.

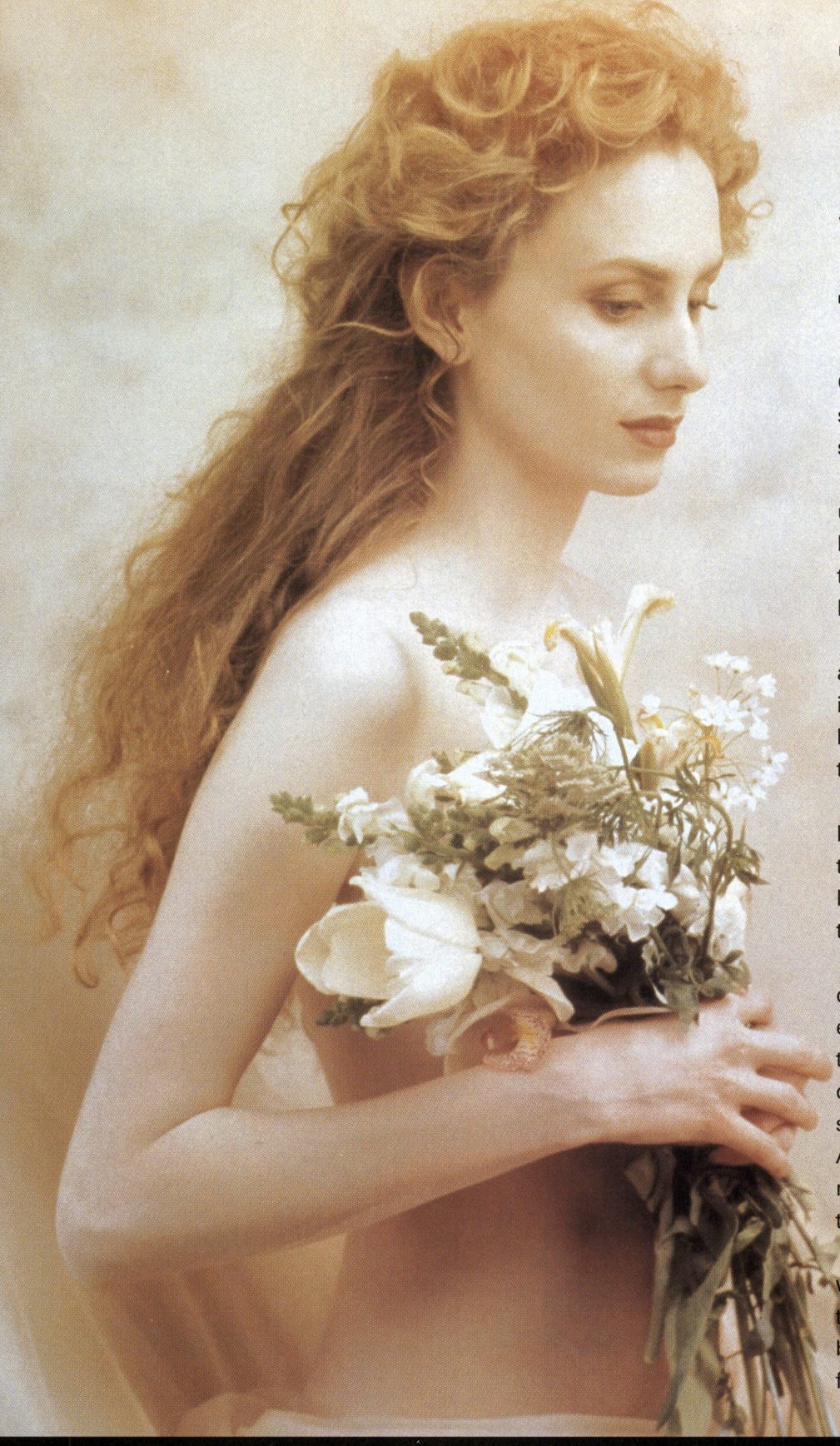
The most remarkable photographic feat is the opening scene, an unbroken 195-second crane shot that ordinarily would have been done in several shots. It begins with a close-up of a time bomb which is being set; the camera swings up as the man planting it looks down the street, pulls back as he runs to the right, and follows his shadow along a building to a Cadillac convertible parked in back. He puts the bomb in the trunk and flees as a politician and a blonde stripper emerge from the back door of a nightclub and get into the car. Pulling away from camera, the car circles behind the building as the camera moves to a high angle to show it pulling out and moving onto the street. The camera then moves down two downtown blocks, covering the action with close-ups, low tracking shots, bird's-eye views, and long shots. The street is crowded with pedestrians and is elaborately night-lighted. Heston and Leigh enter the street and the camera moves close to them as they turn and walk ahead of the car. Next, we move ahead to the border checkpoint, where Heston chats with the driver and a guard and the blonde complains about a ticking sound. The auto passes and the camera moves close to Heston and Leigh to pick up their conversation. They are interrupted by an explosion off-screen left; only then does the scene cut to the exploding Cadillac. Metty properly gave credit to camera operator Philip Lathrop, ASC for the virtuosity of this flawless, one-of-a-kind scene.

On a smaller scale, but equally elaborate, is a long take in which Welles, playing a corrupt detective, questions a witness in a small apartment and plants evidence to frame him. Heston recalls that it was "a very elaborate setup, with walls pulling out of the way as the camera moved from room to room, and four principal actors plus three or four bit players working through the scene." It covers 12 pages of dialogue, lasts almost five minutes, and creates the impression of about 60 shots.

The hard-lit night scenes, with opaque shadows and occasional dutch angles, are relieved only by a few lightly diffused scenes in Marlene Dietrich's brothel. The picture's sustained tone of menace is a tribute to Russell Metty's artistry.

Recently re-released in a restored version cut according to Welles's personal notes — with additional shots and a reworked soundtrack — *Touch of Evil* was welcomed back to the big screen last year. (See *AC* Sept. '98.)

— G.T.



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Best-Shot Films 11-50



11 *Godfather Part II* (Gordon Willis, ASC)
12 *The Night of the Hunter* (1955, Stanley Cortez, ASC)
13 *The Last Emperor* (Vittorio Storaro, ASC)



14 *JFK* (Robert Richardson, ASC)
15 *Psycho* (1960, John L. Russell, ASC)
16 *Barry Lyndo* (John Alcott, BSC)
17 *Ben-Hur* (1959, Robert Surtees, ASC)



18 *Manhattan* (Gordon Willis, ASC)
19 ***A Clockwork Orange*** (John Alcott, BSC)
20 ***Vertigo*** (Robert Burks, ASC)
21 *8½* (Gianni Di Venanzo)



22 *Doctor Zhivago* (Freddie Young, BSC)
23 *The City of Lost Children* (Darius Khondji, ASC, AFC), *McCabe and Mrs. Miller* (Vilmos Zsigmond, ASC)
24 *Persona* (Sven Nykvist, ASC)



25 *Chinatown* (John Alonzo, ASC)
26 *Rashomon* (Kazuo Miyagawa), *Seven* (Darius Khondji, ASC, AFC)
27 *The English Patient* (John Seale, ASC, ACS)
28 *The Black Stallion* (Caleb Deschanel, ASC)
29 ***Do the Right Thing*** (Ernest Dickerson, ASC), *Fanny and Alexander* (Sven Nykvist, ASC), *GoodFellas* (Michael Ballhaus, ASC), *Sweet Smell of Success* (James Wong Howe, ASC)
30 *Ran* (Asakazu Nakai), *Titanic* (Russell Carpenter, ASC)
31 *The Wild Bunch* (Lucien

AC October 1950

Assignment Overseas

Labor and technical problems are diminishing for Hollywood directors of photography shooting in foreign studios.

by Joseph Ruttenburg, ASC, BSC

Never before have so many Hollywood productions been photographed abroad. For directors of photography, this has meant — aside from visits to new and interesting foreign lands — working with unfamiliar equipment and technicians and putting up with certain labor restrictions and foibles. In most instances, the visiting cinematographer has fared very successfully. I have nothing but good things to say about associates with whom I worked in England months ago while filming *The Miniver Story.*

The premiere showing of this picture in New York this month is an occasion for reminiscing on my pleasant association with the many fine British technicians who aided in filming this production at Metro-Goldwyn-Mayer's Elstree studios in London. It also affords opportunity to reveal what other directors of photography may encounter on overseas assignments. Today, with the growing trend of the off-the-lot production, many cinematographers may expect to receive assignments to photograph a production in Britain, France or Rome — the three most active centers of overseas production at this time. In such event, the thought that naturally comes to mind is, "What are the conditions to be met there with regard to technicians and equipment?"

A London assignment, of course, affords the greatest promise, although conditions in both France and Italy are fast improving. The London studio situation is more comparable to ours here in America in that equipment and techniques pretty nearly approximate those in Hollywood. The big hurdle, and one that must be settled before the director of photography lands in England, is that country's rigid restrictions against the use of foreign motion picture technicians and labor. This is understandable, in view of the English industry's economic setbacks during the past year, which have greatly limited the amount of work available for the large number of British motion picture technicians.

We had this problem before starting to shoot *The Miniver Story.* It required considerable negotiation in advance, but, fortunately, the British technicians saw a way to a solution. It simply narrowed down to this: actress Greer Garson refused to make the picture in England unless I could direct the photography. Making the picture in England meant more than 600 actors and technicans would receive steady paychecks for several months. If the picture was not made there, a lot of people would continue to remain on the unemployed lists. So a compromise was reached whereby I could assume direction of the photography, providing that MGM employed

a stand-by cinematographer.

When the picture started, there was the noticeable stiff formality of precisely adhering to the covenants of the technician's union, but before we had concluded the first day's work, the technicians and I were getting along famously. These men are very eager to work with Hollywood cameramen in order to learn more of the advanced Hollywood techniques. As a result, there is a strong feeling for a mutual interchange of technicians on productions both here and abroad as a means of increasing the British technicians' skills.

Actually, many of these men are as skilled and resourceful as most of our technicians. But there are a lot of men among them who are comparatively new in the industry and therefore haven't the experience of years that most of our technicians have. Another thing, they haven't developed the drive and systematic handling of equipment that you find in Hollywood studios; as a result, average production schedules are much longer than in Hollywood. There, the "lighting cameraman" (comparable to our director of photography) lights the sets, as does the gaffer in Hollywood. Certain technicians in Hollywood would blush to see me swinging a lamp in place or moving cables, gobos and barn doors, as I frequently did on this picture. However, I think our crew greatly benefitted by their experiences in making this picture, for wherever possible, I reorganized their working procedures to more nearly conform with those followed in Hollywood. As a result, we greatly speeded up production.

I think that the British motion picture industry and its technicians are presently in about the same stage of growth as we were a decade ago. Most of the men are "eager beavers" — extremely willing to learn and progress, and yet getting a lot of personal satisfaction from their work. In my opinion, the big men of Britain's future motion picture industry are now being developed.

As for equipment, the British have the best that can be found anywhere. The Elstree studio, for example, built a replica of the famous MGM "RO" camera crane, and added a few new features of their own. They have access to all the latest Mole-Richardson lighting equipment, which is obtainable from the M-R London factory. Perhaps the greatest single factor that retards development of the technical side of the industry here is the practice of using a different camera crew for each production. In Hollywood, most directors of photography have the same camera and grip crews on every picture. At the British studios, the cinematographer invariably is given a new and strange crew of men, all of whom must acquaint themselves with the general working conditions and habits of the cinematographer to whom they are assigned. Working with Hollywood technicians, I think, has had tremendous influence on these men, and the "team" idea seems to be catching on.

That the British cine technicians treated me royally is an understatement. While there, I was invited to participate in the Fourth Royal Film Performance in the presence of the King and Queen. The occasion was the premiere screening of MGM's *Forsyte Saga.* (We changed the title to *That Forsyte Woman* over here.) It was held at the Odeon theater in London, and on this occasion I was presented — as were other guests of honor — with a medallion commemorating the event. The inscription reads: "To Joseph Ruttenburg, ASC, to commemorate your participation in the Fourth Royal Film Performance in the presence of Their Majesties the King and Queen."

Early in the production of *The Miniver Story*, Freddie Young, the president of the British Society of Ballard, ASC)



32 *The Natural* (Caleb Deschanel, ASC), *North by Northwest* (Robert Burks, ASC)

33 *Moulin Rouge* (1952, Oswald Morris, BSC), ***Star Wars*** (Gilbert Taylor, BSC), *West Side Story* (Daniel L. Fapp, ASC), *The Big Combo* (John Alton)



34 *Butch Cassidy and the Sundance Kid* (Conrad Hall, ASC), *Singin' in the Rain* (Harold Rosson, ASC)



35 ***The Deer Hunter*** (Vilmos Zsigmond, ASC), *The Good, the Bad, and the Ugly* (Tonino Delli Colli), *Heat* (Dante Spinotti, ASC, AIC), *Reds* (Vittorio Storaro, ASC, AIC), ***Who's Afraid of Virginia Woolf?*** (Haskell Wexler, ASC)



36 *Brazil* (Roger Pratt, BSC), *The Duellists* (Frank Tidy, BSC), ***Natural Born Killers*** (Robert Richardson, ASC), *The Piano,* (Stuart Dryburgh), ***Sunset Boulevard*** (1950, John F. Seitz, ASC), *To Kill a Mockingbird* (1962, Russell Harlan, ASC)



37 *Seven Samurai* (Asakazu Nakai), *The Ten Commandments* (1956, Loyal Griggs, ASC), *Women in Love* (Billy Williams, BSC)

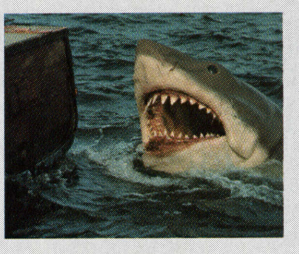
38 *Pennies From Heaven* (1981, Gordon Willis, ASC), *The Untouchables* (Stephen Burum, ASC)

39 *Alien* (Derek Vanlint, BSC), *Amistad* (Janusz Kaminski, ASC), *Baraka* (Ron Fricke), *Cabaret* (Geoffrey Unsworth, BSC), *Empire*

Best-Shot Films 11-50













of the Sun (Allen Daviau, ASC), ***The Exorcist,*** (Owen Roizman, ASC) *Hiroshima Mon Amour* (Sacha Vierny), *I Am Cuba* (Sergei Urusevsky), *The Innocents* (Freddie Francis, BSC), *L.A. Confidential* (Dante Spinotti, ASC, AIC), ***The Right Stuff*** (Caleb Deschanel, ASC)

40 *Breaking the Waves* (Robby Müller, BVK, NSC), *In Cold Blood* (1967, Conrad Hall, ASC), ***Jaws*** (Bill Butler, ASC), *The Shining* (John Alcott, BSC)

41 *Akira Kurosowa's Dreams* (Kazutami Hara, Takao Saitô, Masaharu Ueda)

42 *The Cranes Are Flying* (Sergei Urusevky), *Excalibur* (Alex Thompson, BSC), *Once Upon a Time in the West* (Tonino Delli Colli)

43 ***Das Boot*** (Jost Vacano, ASC, BVK), *The French Connection* (Owen Roizman, ASC), *Hud* (1963, James Wong Howe, ASC), *Out of Africa* (David Watkin, BSC), ***Seconds*** (James Wong Howe, ASC)

44 *Amadeus* (Miroslav Ondricek, ASC), ***Bonnie and Clyde*** (Burnett Guffey, ASC), *The Cook, the Thief, His Wife & Her Lover* (Sacha Vierny), *Eraserhead* (Frederick Elmes, ASC), *Forrest Gump* (Don Burgess, ASC), *The Last of the*

Assignment Overseas

Cinematographers, and I became fast friends. Months later, I was guest of honor at one of the Society's monthly dinner meetings, at which time Mr. Young, addressing the group, said, "I think it a splendid idea that the creators of motion pictures, such as directors, writers, art directors, directors of photography, and others should be allowed to circulate freely and not be confined within the limits of their own countries.

"Of course, we realize that there is a labor problem to consider, and therefore it will quite often be necessary to work out some system of reciprocity. I am sure a lot of members of the BSC would like the opportunity of shooting a film in Hollywood, and it would be a very valuable experience for them; but I'm equally certain that it is good for Americans and those of other nationalities to come to work here, if only to make them appreciate their own country more. In our hearts we have the kindest feelings for directors of photography throughout the world."

Subsequent to this meeting, I was voted in as a member of the BSC, and in due time received a welcoming letter and my membership card.

I hope there will be other occasions for me to work with the fine men at Elstree Studios, which situated in the picturesque Borham woods, just outside London. On my next assignment there, if there is to be one, I am sure I shall find things cinematic greatly changed — vastly improved — as a result of the terrific ambitions of these men and their eagerness to attain a position second to none in the world's motion picture industry. The fact that thus far they have been able to work at a more leisurely pace has enabled them to explore and develop more of the art of motion picture, if less of the technical. But perhaps that is a good thing. There is a greater need today to maintain artistry on a high level — not to lose sight of it, despite mounting production problems and the increasing pressures of economics. ■





Top: ***Eraserhead.*** **Bottom:** ***Sophie's Choice.***

What is a Director of Photography?

A veteran cinematographer defines the duties of the artist most directly responsible for the visual style of a film.

by Charles G. Clarke, ASC



As some confusion exists about the title "director of photography," perhaps a brief summary at this time would be in order. Since the inception of the movies, there have been cameramen. Then, as the peculiar technique of cinema was developed, the *cameraman* became the *cinematographer*. As the industry progressed, cinematography took on specialized fields. The cinematographer now devoted more of his talents to composition and lighting and left the mechanics of the camera to members of his staff. Today he directs and supervises the efforts of a large crew of workers, and is known as the director of photography. He selects the composition, sets the exposure, conceives the lighting, and designates the filters or other photographic controls to be employed.

Some may well ask, "How does motion picture photography differ from regular photography?" While photography is the basis for this field, the requirements for *telling a story on motion picture film* have created a technique quite unique from that which went before. The use of moving figures, the lighting technique utilized to obtain plasticity, the effective use of relatively short-focus lenses, as well as the mobile camera, are all examples peculiar to cinematography. In the very early days, cameramen invented the fade-out and fade-in, the lap-dissolve, the matte shot, the process shot, and numerous other special effects that have been incorporated into the technique of writing for the screen.

One of the great problems of picture production is securing stories for the screen. Several hundred productions are turned out annually by the industry, and any author will concur that no such number of new plots exist. The studios are therefore obliged to revamp many of the old reliables, give them new casts and dialogue, a change of locale, and depend heavily on new photographic treatment. This continual search for a new photographic approach is one of the most exciting aspects of the industry. Thousands of workers throughout the land have a hand in it: the physicist creating a new or better product; the chemist perfecting a better formula; the engineer fabricating a machine that will do that which could not be done before. The writer devising a scene in some new and unusual setting, and the producer, director and cinematographer translating it finally to film are all part of a *team* striving to do some-







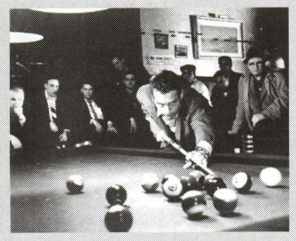




Mohicans (1992, Dante Spinotti, ASC, AIC), ***The Seventh Seal*** (Sven Nykvist, ASC), *Sophie's Choice* (Néstor Almendros, ASC), ***Terminator 2: Judgment Day*** (Adam Greenberg, ASC), *Zelig* (Gordon Willis, ASC).

45 *All About Eve* (Milton Krasner, ASC), *Angel Heart* (Michael Seresin, BSC), *The Bad and the Beautiful* (Robert Surtees, ASC), *The Battle of Algiers* (Marcello Gatti, AIC), *Blow Up* (Carlo Di Palma, AIC), ***Braveheart*** (John Toll, ASC), *Breathless* (1959, Raoul Coutard), *Dick Tracy* (Vittorio Storaro, ASC, AIC), *Easy Rider* (Lazlo Kovacs, ASC), *Fargo* (Roger Deakins, ASC, BSC), *The 400 Blows* (Henri Decaë), *Henry & June* (Philippe Rousselot, AFC), *Jules and Jim* (Raoul Coutard), *La Ronde* (1950, Christian Matras), *My Fair Lady* (Harry Stradling Sr., ASC), *Picnic* (James Wong Howe, ASC), *A Place in the Sun* (1951, William C. Mellor, ASC), *Raise the Red Lantern* (Fei Zhao), *Searching for Bobby Fischer* (Conrad Hall, ASC), ***Shane*** (Loyal Griggs, ASC), *Strangers on a Train* (Robert Burks, ASC), *A Town Without Pity* (Kurt Hasse)

46 *American Graffiti* (Haskell Wexler, ASC), *Andrei Rublev* (Vadim Yusov), *An Occurrence at Owl Creek Bridge* (Jean Boffety), ***Close Encounters of the Third Kind*** (Vilmos Zsigmond,









ASC), *Blue Velvet* (Frederick Elmes, ASC), *From Here to Eternity* (1953, Burnett Guffey, ASC and Floyd Crosby, ASC), ***The Hustler*** (Eugen Shuftan), *Klute* (Gordon Willis, ASC), *Last Tango in Paris* (Vittorio Storaro, ASC, AIC), *The Nightmare Before Christmas* (Pete Kozachik), *The Night of the Iguana* (Gabriel Figueroa, AMC), *Pandora and the Flying Dutchman* (Jack Cardiff, BSC), *Raiders of the Lost Ark* (Douglas Slocombe, BSC), *The Searchers* (Winton C. Hoch, ASC), *Secrets of the Heart* (Javier Aguirresarobe), *Thief* (Donald E. Thorin, ASC), *Walkabout* (Nicholas Roeg, BSC), *War and Peace* (1968, Jack Cardiff, BSC) 47 *All That Jazz* (Giuseppe Rotunno, ASC), *Anatomy of a Murder* (Sam Leavitt, ASC), *A River Runs Through It* (Philippe Rousselot, AFC), ***Cries and Whispers*** (Sven Nykvist, ASC), *The Dead* (Fred Murphy, ASC), *Delicatessen* (Darius Khondji, ASC, AFC), ***E.T.*** (Allen Daviau, ASC), *Horseman on the Roof* (Thierry Arbogast, AFC), *How the West Was Won* (William H. Daniels, ASC, Milton R. Krasner, ASC, Joseph LaShelle, ASC, Charles B. Lang, ASC), *A Man and A Woman* (Claude Lelouch), *Mirage* (1965, Joseph MacDonald, ASC), *My Name Is Ivan* (Vadim Yusov), *Performance* (Nicholas Roeg, BSC), ***Rosemary's Baby*** (William Fraker, ASC),

What is a Director of Photography?

thing better and more interesting than it was ever done before.

That the director of photography will contribute his share is taken for granted in Hollywood. Every production attempts to be different from another, and each presents a challenge for a new photographic approach. The director and cinematographer work as a team, and exchange suggestions about the lighting and staging of scenes. Whenever possible, the style of lighting is varied from sequence to sequence so as to add interest and impact to the photographic effects.

At all times must the players be photographed to their best advantage. The studios have made tremendous investments in building their stars. Every effort is expended to display them most ideally. As no retouching is possible on movie film, our stars must be very carefully lit so that they appear their most glamorous. The science of lighting is therefore highly developed among the directors of photography, and is an art that is constantly being refined.

We strive to obtain photographic interest combined with a sense of reality, yet being on guard that the photography never detract nor overpower the story being unfolded upon the screen. Our lighting technique has lent its influence to other branches of the arts. Commercial and portrait studios frequently adopt our style and use much of the equipment developed by cinematographers.

The economics of motion picture production invariably fall on the director of photography. He is expected to utilize more tricks and lighting devices to cover lack of actual construction, yet create the illusion that such construction exists. More and more of our scenes call for process photography, whereby a still or motion picture is projected from the rear on a translucent screen. To effect a composite scene realistically, ingenious lighting must be devised to illuminate the subject naturally, yet keep the screen in darkness.

In recent years, there has been an increasing tendency to utilize natural interiors for motion picture settings. Many of our current productions transpire in Macy's, in some courthouse, private home, or public building. This has given our productions a sense of authenticity, but in doing so it has presented new problems to the cinematographer. To light such interiors and the players therein to the standards expected of us is a challenge. To meet with these conditions, huge filters often need to be placed over windows and doors to



Raiders of the Lost Ark

balance exterior light with that available inside. As lights can seldom be placed overhead, horizontal sources must be employed. Reflections from glass, marble and other shining surfaces add to the complications of natural reproduction.

As action is the motivating force of the cinema, the majority of our scenes today require the mobile camera technique. Our cranes, velocilators, dollies and camera mounts are wonders of engineering and construction. Few realize, however, the difficulties of lighting these moving shots. The actors must be well-photographed under all conditions, yet there can be no shadows from these traveling monsters.

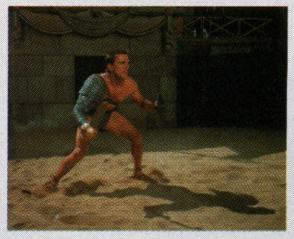
The ever-present microphone constantly hovering close overhead, darting here and there as the actors speak, creates a shadow problem of no mean proportion. To cope with the microphone situation in sound films, a whole new lighting technique had to be devised. Ingenious light shields and masks have been evolved to eliminate stray, shadow-casting light.

Our sets are broken up with light patterns that stay clear of the microphone. We use dimmers for incandescent lamps and shutters for arc lights to bring their illumination into play where needed. The sound blimp encasing the camera is a bulk in itself that is an obstacle to lighting. and in moving shots it is a shadow-maker. Thus, many moving scenes cannot entirely be pre-lit because of shadows cast by the equipment. Until the precise moment shadows are clear, offending lights remain out. They are then brought on, and dimmed out after they have fulfilled their use.

With color taking over more and more as the preferred photographic medium for both theatrical and television filming, the role of the director of photography has become even more important. He has had to adapt his camera techniques and lighting methods to keep abreast of the requirements of production in color on an industry-wide scale. He is being aided, of course, by the development of faster and better color emulsions, advanced laboratory processes and innovations in camera, lens and lighting equipment. But in the end, it is his own individual creativity that is the most important determinant of the artistic result.

The technology of motion picture production is undergoing a dramatic revolution as new and more efficient tools of the cinematographer's trade are being developed. He has the responsibility, not only to the film industry, but to his own integrity as a camera artist, to keep pace with these innovations so that he may use them to photograph motion pictures as artistically and economically as possible.

Indeed, the modern director of photography is in the very vanguard of the research and development from which this new technology is evolving. He assists in new technical development by suggesting improvements and by testing new materials before they become commercially available. Our own cultural and educational organization, the American Society of Cinematographers, is particularly active in furthering the development of new processes and new techniques in cinematography. Our clubhouse in Hollywood is equipped with the finest of projection facilities, which make it possible for manufacturers and others in the industry to demonstrate new films, new color processes and new photographic innovations to the cameramen of Hollywood, enabling them all to keep abreast of those developments which are so vital to the progress of the art. We invite cooperation from all sources that will enhance that miracle of the modern age — *motion picture photography.* ■











Seppuku (Yoshio Miyajima II), ***Spartacus*** (Russell Metty, ASC), *Tess* (Ghislain Cloquet and Geoffery Unsworth, BSC), *The Wild Child* (Néstor Almendros, ASC)

48 *The Age of Innocence* (Michael Ballhaus, ASC), *Arabesque* (Christopher Challis, BSC), *The Shawshank Redemption* (Roger Deakins, ASC, BSC), *Blue* (Slawomir Idziak), *The Double Life of Veronique* (Piotr Sobocinski), *Dr. Strangelove* (Gilbert Taylor, BSC), ***Ed Wood*** (Stefan Czapsky), *The Elephant Man* (Freddie Francis, BSC), *Kwaidan* (Yoshio Miyajima), *A Hard Day's Night* (Gilbert Taylor, BSC), *La Dolce Vita* (Otello Martelli), ***Lost Highway*** (Peter Deming, ASC), *1900* (Vittorio Storaro, ASC, AIC), *One From The Heart* (Vittorio Storaro, ASC, AIC), *Ship of Fools* (Ken Kelsch, ASC), ***Taxi Driver*** (Michael Chapman, ASC), *Ugetsu monogatari* (Kazuo Miyagawa), *The Wind and the Lion* (Billy Williams, BSC).

49 *The Begger's Opera* (Guy Green, BSC), ***Cleopatra*** (1963, Leon Shamroy, ASC), *The French Lieutenant's Woman* (Freddie Francis, BSC), *Il Grido* (Gianni Di Venanzo), *Les Diaboliques* (1954, Armand Thirard), *Los Tallos*









Amargos (Ricardo Younis), ***Medium Cool*** (Haskell Wexler, ASC), *A Night to Remember* (1958, Geoffrey Unsworth, BSC), ***On The Waterfront*** (Boris Kaufman, ASC), *Platoon* (Robert Richardson, ASC), *Rear Window* (Robert Burks, ASC), *The Sand Pebbles* (Joseph MacDonald, ASC), *Weekend* (Raoul Coutard), *Winchester '73* (1950, William H. Daniels, ASC)

50 *Boogie Nights* (Robert Elswitt, BSC), *The Brave One* (Jack Cardiff, BSC), *A Chinese Ghost Story* (Yongheng Huang, Jiaogao Li, Putang Liu, Hang-Sang Poon), *Daughters of the Dust* (Arthur Jafa), *Dial M for Murder* (Robert Burks, ASC), *El Cid* (Robert Krasker, BSC), ***Evita*** (Darius Khondji, ASC, AFC), *Full Metal Jacket* (Douglas Milsome, BSC), *Glengarry Glen Ross* (Juan Ruiz-Anchía, ASC), *The Graduate* (Robert Surtees, ASC), *Grand Prix* (Lionel Lindon, ASC), *High Noon* (Floyd D. Crosby, ASC), *La Strada* (Otello Martelli), *Last Year at Marianbad* (Sacha Vierny), *Legends of the Fall* (John Toll, ASC), *A Man For All Seasons* (1966, Ted Moore, BSC), *Patton* (Fred J. Koenekamp, ASC), ***The Professionals*** (Conrad Hall, ASC), *Raising Arizona* (Barry Sonnenfeld), *Ryan's Daughter* (Freddie Young, BSC) ■

AC January 1972

Photography for The Last Picture Show

Interview by Herb A. Lightman

Director Peter Bogdanovich played out an old fantasy when he picked Robert Surtees, ASC to film *The Last Picture Show.* In 1950, at the age of 11, Bogdanovich went to see *King Solomon's Mines* with his father, and remembers his father, a painter, marveling at Surtees's work, which earned him his first Academy Award (for Best Color Cinematography). Looking for a cameraman familiar with black-and-white, Bogdanovich chose Surtees after hearing a glowing recommendation from director Mike Nichols, for whom Surtees had shot *The Graduate.*

Born in Covington, Kentucky in 1906, Surtees's distinguished career includes *The Bad and the Beautiful* (Academy Award for Best Cinematography in 1952), *Ben-Hur* (Academy Award for Best Color Cinematography in 1959), *Intruder in the Dust, Mogambo, Oklahoma,* and *Doctor Dolittle,* among many others.

In the following candid interview, Surtees, a veteran cinematographer who has a degree of verve, enthusiasm and imagination surpassing that of most of the industry, discusses the unique challenges and satisfactions of photographing *The Last Picture Show.*

How did it come that *The Last Picture Show* was photographed in black-and-white instead of in color?

That's the question I'm asked most often. It's generally understood in the industry that it's harder to sell a black-and-white picture to TV later on, because all features are shot in color now. They're afraid that TV viewers, seeing a relatively new picture on the tube in black-and-white, will think something's gone wrong with their receivers. The idea of shooting in black-and-white came from the director, Peter Bogdanovich. He had become well-known as a film critic — the only American critic who liked American pictures — and also a film historian, and he studied the styles of all the outstanding films of the past. He is a great admirer of John Ford and Orson Welles, technically speaking, and has written books about both of them. He especially liked *Citizen Kane,* and in our preliminary meetings, before I was definitely assigned to the picture, he asked what I thought about shooting his picture in black-and-white. Naturally, I said it would be great. It would be a change. Gosh, I don't know how many years it's been since I've done a black-and-white picture.

How did you arrive at the distinctive photographic style used in the film?

Basically, what we did was to go back and use some of the techniques of Orson Welles — but not as extreme, because we were shooting in all real interiors and on a very small budget. It takes a huge amount of footcandles to get extreme depth-of-field shots indoors, and we had neither the room in our "sets" nor the budget to accommodate a lot of big lighting units. As for style, Bogdanovich and I arrived at the idea that the photography should look as if it had been done by an experienced amateur who had a camera he could hold awfully steady, and who liked to drop in on people and photograph them. This meant getting away from certain things

we've done photographically in every picture over the years — things like lighting a wall so that streaks of shadow fall onto it. Instead, I decided to light the walls with soft, flat light. As it was, we had to put most of our lights on the floor and hide them everywhere in the actual interiors.

What kind of shooting schedule did you have?

Eight weeks — which is like working at the speed of a quickie compared to the expensive features that are made today, but we had to work that fast because of the amount of money available. Then, too, it was really Peter's first feature — although he had made one previous low-budget feature on his own which wasn't a success — and he had to figure things out, which also takes a bit more time than usual. I will say that he's one of the brightest guys I've ever known. I worked with Mike Nichols on *The Graduate*, and I'd rate this fellow up there with him. Mike is an effervescent sort of man, while Peter is much more serious. He's colder too. He realized this and I fought it.

In what ways do Peter Bogdanovich's methods differ from that of other directors you've worked with?

For one thing, he doesn't shoot master scenes. He does each bit of action separately and picks the next cut up from there. For example, there is one sequence in which two boys go all the way around a café pushing and arguing, and it ends up with one boy getting hit in the head with a beer bottle. It's a short sequence — it couldn't have run more than 200' in the final editing — but it was made up of 30 separate cuts. At the time, I wasn't quite sure how well it would go together, but it works beautifully. I wouldn't recommend that every director try this, however. Of course, Bogdanovich does all of his own editing, even the routine things that an assistant editor would ordinarily do. He works without an editor in the belief that, if you have another man involved — even if you are looking right over his shoulder — it will affect the final result. He has a point there. In the sequence I just mentioned, for example, unless you were Peter Bogdanovich, you would not know how to piece it together.

It appears that you enjoy working with young directors.

Those fellows amaze me — the ones that are good, that is. Mike Nichols, when I worked with him, was 32, and Peter was 29 when we started his picture. But neither one of them were young guys who were just starting out. Mike had proved himself to be probably the best stage director in New York on five plays before making his first film, so he wasn't some kid walking the sidewalks who suddenly jumped into being a director. The same is true of Bogdanovich. He'd had so much contact with films, motion picture history, and the work of various directors that it gave him considerable background. I was afraid, at first, that he might become too mechanical — like doing a John Ford thing today and an Orson Welles thing tomorrow — but that wasn't the case. He changed things considerably and came up with his own style.

From the cinematographer's standpoint, which do you think is more difficult to shoot, black-and-white or color?

From a technical standpoint, I still insist that black-and-white is more difficult. For example, while shooting an actual interior in color, if you pan from a well-lighted figure to an area that is dark but too cramped to place lights where you really like them, you can just flatten that area out and get by. But in black-and-white, if you want shadow, you've got to put it in there, man. You can't depend on fill light to take care of it. You really have to model the subject with light instead of counting on the colors for separation. Of course, the right makeup, wardrobe and sets become more important in color photography. You can sometimes get by with the wrong makeup in black-and-white, and you can help a bad set. You can use smaller lamps, get in behind chairs, and break up walls by putting shadows on them. But on the other hand, in shooting black-and-white, you have to *do* it. You can't count on the process you're using to do it for you.

What reactions have you received regarding the use of black-and-white for this picture?

I've heard a few comments. Either people like the photography very much, or they don't like it at all. One reviewer said that it didn't have anything like *Hud* in it. Jimmy Wong Howe [ASC] photographed *Hud* and it was beautiful. But *The Last Picture Show* couldn't be beautiful. That kind of photography would have been all wrong for this picture.

Could you comment a bit more on the use of extreme depth of field in this picture?

When Gregg Toland [ASC] photographed *Citizen Kane*, the style called for really exaggerated depth of field, which meant stopping the lens down as far as possible and using a tremendous amount of light. In order to stop down that far, he resorted to doing something that had been done in the old days of photography. He had the irises removed from his lenses and replaced them with metal slides that had very small holes drilled into them — something like the mattes used in the Spectra exposure meter to adjust for ASA ratings. Well, we didn't go that far. But I shot almost all of the picture, including the interiors, at f8, occasionally stopping down to f10. That still required a heck of a lot of light by today's standards — 600 footcandles at f10.

Which film stocks were you using?

Outside, I used Eastman Plus-X negative. It's rated at ASA 80, but I had plenty of light for the stop I

needed. Inside, I used Double-X. It has more grain, but it's rated at ASA 250 and can be pushed to almost ASA 1500, if necessary.

Did you push any of your footage?

No. The stocks were so fast that I didn't have to. I could have gotten better quality by using Plus-X indoors as well, but that would have required even more light, and on this picture, that quality of the images wasn't as important as having them look real.

Aside from the sheer necessity of having enough light, what was your greatest problem in achieving the extreme depth-of-field effects?

Maintaining the proper balance between key and fill light. In color, for example, all that the film can handle is a ratio of 10-to-1 between the brightest object and the darkest object. On night exteriors, you usually light to a 4-to-1. But black-and-white film can accommodate a brightness contrast ration of about 100-to-1, which is completely different from color, and much more dangerous. Let's says that you want to shoot a scene at a certain ratio and that you want to stop down further for the very next scene. As you stop down, you automatically pick up contrast — so you have to figure out just how much extra fill to add for compensation in order to get the second scene to look like the first in terms of contrast. It can be very tricky, especially if you've been shooting nothing but color for a good many years.

Your exteriors had a dark, brooding quality and very rich skies, which indicates that you must have made extensive use of filtration. Isn't that so?

Yes. I went back to the old black-and-white Western style of photography, which isn't done anymore, where you have 20 or 30 filters for different types of scenes, as called for. To say how and where you use each filter would be misleading, because you could give the same set of filters to a different cameraman and he would get a different result. In using filters, you sometimes underexpose or overexpose on purpose to get a particular effect. You might use heavy contrast filters — even as high as a 25 red or a 21 orange — in your long shots to make the sky darker, but this also corrects everything else in the scene. The whites become whiter; the darks become darker. When you move in for the close-ups, it's a good idea to change to something like the old Aero-2 filter, which gives you more control. Or, if you still have to use the heavy-contrast red or orange filter, you balance the lighting by eye through the camera. When you look up, it doesn't look like you have any light on the subject at all, but you're photographing what you see through the filter. If you're stuck using a red filter on a close-up, the face will go chalky where the sun hits it, so, by artificially lighting it, you work it over so the skin doesn't look chalky. You first knock down the sunlight by putting a net up to shade the face, and you then balance your light while looking through the camera. I think that one of the reasons why I was asked to photography this picture is that not many fellows are shooting in black-and-white anymore, and I'm one of the few left over from the old black-and-white days. You know, what they need now are 21-year-old cameramen who have 60 years of experience.

There's no way for cinematographers to gain that black-and-white experience anymore, is there?

No — that's the trouble. All that experience is gone. I hate to see black-and-white go completely. I think we've lost a great tool, because it's absolutely right for certain types of stories. It's like the difference between an etching and a painting. The work that Arthur Miller [ASC] used to do in black-and-white, for example, was like an etching — just beautiful art. It's not possible to get the same kinds of halftones in color that you can get in black-and-white.

The photography in the picture is very clean — that is, free of trimmings and frills. Is that due to the fact that you had such a small amount of lighting equipment available?

Not really. I don't use backlight anymore — unless it's established as coming from a practical lamp or something like that — and I don't break up the walls with shadow patterns. I think that's old-fashioned and 'motion picturish,' and it would have been all wrong for this picture. Now, if you are shooting a glamour picture, it would be different. You'd tend to go back to the old style, with all the trimmings.

What kinds of lenses did you use on this picture?

The entire picture was photographed with one lens, a 28mm. We used it for every shot, although it did cause something of a sound problem with camera noise when we would move in for the close-ups.

Bogdanovich wouldn't even allow a zoom lens on the set. He detests the zooms, even if they are just used to follow someone. Orson Welles had told him that a zoom creates artificial movement, and technically, he's correct. A zoom shot is merely a magnification of an object. It doesn't at all give you the same perspective that you'd get, for example, if you dollied through a doorway. However, there were many times when it was necessary to move the camera a couple of feet to tighten up the composition on a shot. Using the zoom for this purpose would have literally saved days on this picture, but Peter insisted on laying dolly track and dollying that couple of feet. He has his integrity — which is very important to him — and you have to respect him for it. ■



A TERRIFIC TWO-YEAR-OLD!

www.cinematographer.com

As the ASC commemorates 80 years of excellence, the ASC Website celebrates its second anniversary, and unlike most toddlers, instead of chewing on family heirlooms and uttering garbled phrases, we're creating an online archive for the future and crafting phrases that explore every aspect of cinematography.

TAKE A LOOK AT THIS BABY

- An online archive of *American Cinematographer* articles going back to March 1997 — featuring countless bonus photographs, movies and special viewers
- Seven web-exclusive multimedia articles exploring the craft of cinematography in our cutting-edge **Studio** section:
  - *From the Earth to the Moon*
  - *Mouse Hunt*
  - *The Parent Trap*
  - *The Peacemaker*
  - *Red Corner*
  - *Six Days Seven Nights*
  - *Snake Eyes*
- The ASC newsroom, where the latest press releases on ASC news and events are hot off the press
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- A robust series of dialogues dissecting the craft in **Open Forums**
- The only Internet store where you can purchase the complete array of official *American Cinematographer* and ASC merchandise
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And we're still in diapers! Hold on to your hats, as the ASC Website grows and changes in the coming months. We will bring more live events and up-to-the-minute coverage of the issues surrounding motion picture and television photography. Visit the site at **www.cinematographer.com** and help us make sure that year three's a charm!

AC July 1982

Cinematography for Blade Runner

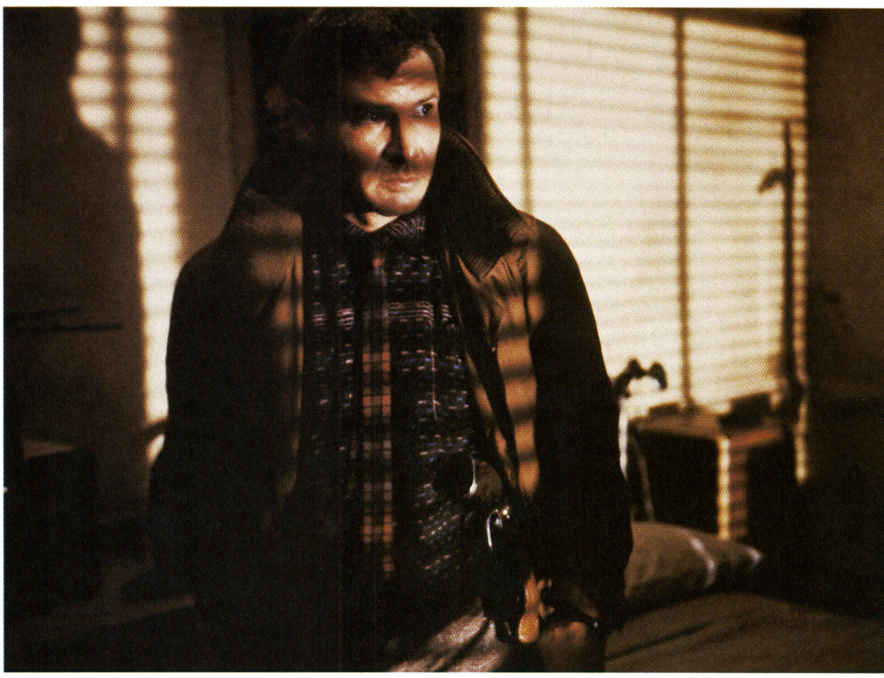
by Herb A. Lightman
and Richard Patterson

Jordan Cronenweth, ASC's photography for *Blade Runner*, with its use of strong shafts of light and backlighting, immediately evokes images from classic black-and-white movies, and it is not accident that it does. Cronenweth explains, "[Director] Ridley Scott felt that the style of the photography in *Citizen Kane* most closely approached the look he wanted for *Blade Runner*. This included, among other things, high contrast, unusual camera angles, and the use of shafts of light."

David Dryer, one of the special photographic effects supervisors, worked with black-and-white prints of most scenes in the film for one reason or another, and almost wishes the film could be released in black-and-white. He thinks it seems to have even more depth and style in black-and-white. Needless to say, this would not do justice to Cronenweth's work, but it is an indication of the way in which the photographic style of the picture harks back to classic movies.

Like every other aspect of the film, Cronenweth's photography takes the classic conventions one step further, and not the least of his tools in doing this is the use of color, or even the absence of color where it might normally be expected. "We used contrast, backlight, smoke, rain and lightning to give the film its personality and moods," the cameraman says. "The streets were depicted as terribly overcrowded, giving the audience a future time-frame to relate to. We had street scenes just packed with people… like ants. So we made them appear like ants — all the same. They were all the same in the sense that they were all part of the flow. It was like going in circles… like going nowhere. Photographically, we kept them rather colorless."

If the people on the streets were colorless, the Los Angeles Street set was anything but: "The character and consequently the lighting of the street was achieved through the use of dozens of neon signs. We rented a number of them from *One From the Heart*. In order to achieve a photographic reality, the on-camera neons





Opposite: Amid slatted shadows cast by a venetian blind, laconic bounty hunter Rick Deckard (Harrison Ford) carries film noir tradition into the future. This page: Deckard and Rachael (Sean Young) burn up the circuits.

were often on dimmers set at a level just above where they would start to flicker. At the same time, the off-camera neons were used as the primary source of light whenever possible by leaving them at their brightest level. When the existing neons weren't sufficient for either illumination or dressing, we would create new ones on the spot and place them wherever we wanted. An example of this was placing letters on the side and strips along the interior of a bus that Deckard [Harrison Ford] runs through in one scene. At one point, we had a seven-man crew doing nothing but overseeing the neon signs. There were many more neons than there were dimmers, so we had to rob Peter to pay Paul at various times."

Cronenweth would supplement the neons on occasion: "What we needed was some accent lighting to make the range stand out, to glisten the street if necessary and to highlight objects or people. Lighting the set was a simple matter of using backlight in conjunction with the ambient light."

However, the neon lights were bright enough to enable Cronenweth to do some high-speed photography: "In the sequence in which Deckard is chasing a replicant named Zhora, the 'Snake Lady' (Joanna Cassidy), the script calls for her to run through a series of plate glass windows. The art director built a storefront situation appropriate for the action, but when it came to dressing it, Ridley was very unhappy with the first attempt. They tore all the dressing out and a week later presented a new interpretation, but he still hated it. Ridley himself finally had the wonderful idea of taking the neon signs off the street set and placing them in the windows of the stores. What developed was something that really worked. We then photographed the chase with multiple cameras running at various frame rates — normal and above normal. This created a pulsating effect in the neon which doesn't occur when photographing at normal camera speeds, but definitely does when shooting at higher frame rates. We lived with it by using the pulsing as an element of the chase."

Another example of the striking use of colored light is the scene in Sebastian's toy room, during which Deckard encounters another replicant, Pris (Daryl Hannah). She is made up with white makeup, and the scene is lit with rose-colored light.

Colored lights were also occasionally used to create a special effect for the replicant's eyes: "One of the identifying characteristics of replicants is a strange glowing quality in their eyes," Cronenweth notes. "To achieve this effect, we'd use a two-way mirror — 50 percent transmission, 50 percent reflection — placed in front of the lens at a 45-degree angle. Then we'd project a light into the mirror so that it would be reflected into the eyes of the subject along the optical axis of the lens.

Cinematography for Blade Runner



Deckard mistakes the limber Pris (Daryl Hannah) for a mannequin — with painful consequences.

We'd sometimes use very subtle gels to add color to the eyes. Often, we'd photograph a scene with and without this effect, so Ridley would have the option of when he'd use it."

In discussing the photography of *Blade Runner,* however, Cronenweth emphasizes that technique was not the most important consideration. "The thing that was unique was not the equipment or the gels or the intensity or the hard or soft light," he stresses. "It was the concept behind each situation telling the story. Since the film is set in the future, unusual sources of light could be used where one would not accept them in a contemporary setting. For example, many of the people on the street set carried umbrellas that had fluorescent tubes incorporated in their shafts, providing a light source which could create a glow on their faces."

Cronenweth is particularly emphatic about backlight and contrast. "I can never use enough backlighting," he says. "It's just that some directors want to see the actors' faces. I keep telling them that the audience only goes to see the sex." The cinematographer is as interested in creating mood or an effect as he is in lighting an actor's face. He tends to use soft frontlight with a hard backlight, although, he adds, "I love hard light in the face if it is overexposed. I think that's beautiful. It's different; it's unusual. It's exciting; it's violent.

"*Blade Runner* is a piece that calls for extremes. It's naturally a wonderful vehicle for this kind of lighting. It's theatrical, but it will be very real in the film. In this film, I think you'll just accept it. It transcends theatricality."

In addition to using soft frontlight, Cronenweth often lit faces from below. In addition to the glowing umbrella handles, he often made use of water or other reflective surfaces to provide uplight in several scenes. The combination of warm soft uplight in the foreground with hard backlight and smoke in the background is probably the most characteristic feature of the lighting style for *Blade Runner.*

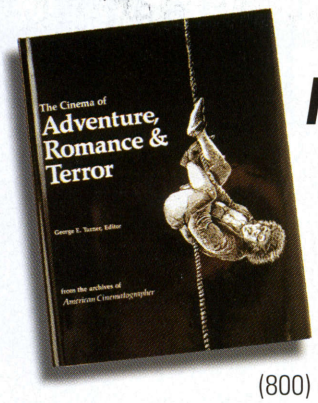
The other key ingredient in the photography of *Blade Runner* is the use of shafts of light. "That was an idea that both Ridley and I happened upon independently and had talked about," Cronenweth reveals. "We shared that concept, and it became one of the major themes of the film photographically. We used it over and over again in different applications. One way we justified their constant presence was to invent airships floating through the night with enormously powerful beams emerging from their undersides. In the futuristic environment, they bathe the city in constantly swinging lights. They were supposedly used for both advertising and crime control, much the way a prison is monitored

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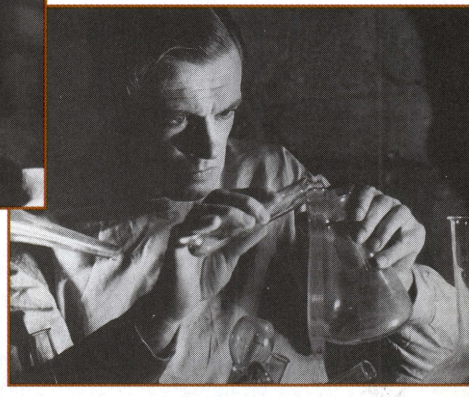
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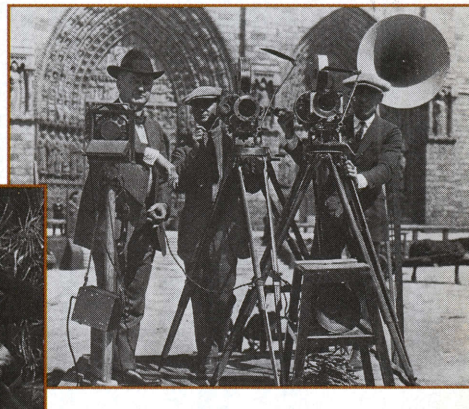






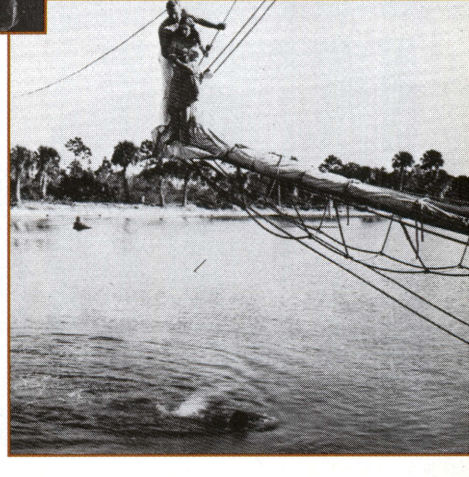












Cinematography for Blade Runner

by moving search lights. The shafts of light represent the invasion of privacy by a supervising force; a form of control. You are never sure who it is, but even in the darkened seclusion of your home, unless you pull your shades down, you are going to be disturbed at one time or another.

"After many tests with various units, gaffer Dick Hart came up with the most effective light to do the job, a Xenon spotlight commonly used for night advertising at sports events. This concept gave us some wonderful opportunities. For example, there's a late-night scene in Deckard's apartment kitchen which was played with the lights out. He has just had a hell of a struggle with one of the replicants. Having barely survived, he is now standing near the refrigerator. Rachel [Sean Young] is standing by the sink, which has a window above it. She is illuminated by a soft backlight through the window and the last traces of light filtering across the room from the refrigerator. Occasionally, one of those strong beams of light cuts through the sink window and glows the room just enough to read her face.

"Naturally," Cronenweth continues, "to create shafts of light, one must have some medium, which necessitated the use of smoke. The story lent itself very well to it, in the context of a highly polluted environment. It was very interesting to work with this constant atmosphere. Smoke is wonderful photographically, but not without its problems. It's hard to control, mainly due to drafts, and a lot of people find it objectionable to work in. Beyond this, it's important to keep the smoke level density constant, as a very subtle change in this density can result in dramatic changes in contrast. The only practical way to judge smoke density is by eye."

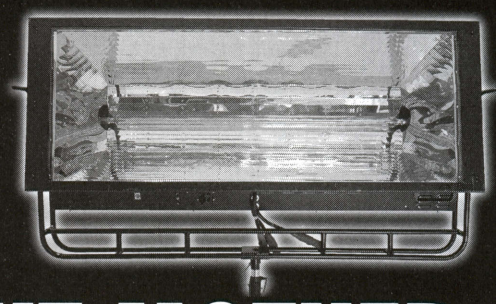
He jokingly adds, "I find that a good density is achieved just before I lose consciousness."

Cronenweth wanted to maintain the same texture even in situations where smoke wasn't used as heavily, and accomplished this by using low-contrast filters. He details, "We changed filters in conjunction with the angle of light and density of smoke. The stronger the backlight, the lighter the filter."

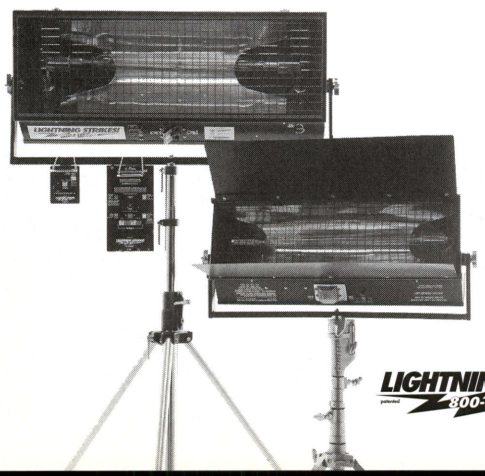
The cameraman particularly enjoyed photographing Sean Young, the leading lady in *Blade Runner*. "Sean has a wonderful, light, creamy, highly-reflective skin, among other beautiful features," he attests. "She also wore her hair up for a good part of the picture, enabling me to light her neck with hard backlight while lighting her face with soft frontlight. My favorite close-up in the film is the shot on her while Deckard is giving Rachel the Voigt-Kampff test. [See

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photo on p. 144.] She is holding a cigarette in her right hand, and the key light was at such an angle so as to strike only her hair, neck and hand and the smoke of the cigarette."

All of the sets for *Blade Runner* had ceilings in them, and some were built very low to enhance the feeling of containment, a motif particularly well-suited to the anamorphic format. "We had to light from the floor or through the windows," Cronenweth describes. "There is a lot of night photography lit through windows. The sources would vary. They could be anything including searchlights, signs, direct light, indirect light, colored light, or lightning. In Deckard's apartment, we created zones of light that automatically illuminated when one walked in — an energy-saving device of the future perhaps. As the depths of the apartment were penetrated, more lights went on until finally the entire place was lit. This effect was mostly lost, however, in the final cut of the film."

Perhaps the most interesting set was replicant creator Dr. Tyrell's cavernous office. According to Cronenweth, "This was one of the most exciting to work in. It was very large — approximately 60' long by 30' wide — with three huge windows along one side and structural ceilings supports rising from a shiny black marble floor. The walls were gray cement and the room was virtually colorless.

"The scene called for the room to be illuminated by sunrise. Outside the windows, we had a front-projection screen upon which was projected an 8" by 10" plate of the futuristic city at sunrise, which [special photographic effects supervisor] Doug Trumbull had created. This enabled us to photograph the players walking in front of the lower part of the screen, and gave Doug the opportunity to create a background with movement in it for the upper portions of the screen area. We had to coordinate the color of the set to match the color of Doug's sunrise. Sunlight was created through the use of arcs outside the windows and amber gels.

"At a certain point in the scene, in order to reduce the light level in the room for Rachel's Voigt-Kampff test, Tyrell [Joe Turkel] presses a button to cause enormous tinted shades to descend over the windows. The 'shades' were actually put in later optically; however, the lighting effect of the shades being lowered had to be created while photographing the scene. To accomplish this, Carey Griffith, the key grip, built a rig that would allow a very large .6 neutral density filter to slide down over the six arcs being used to simulate sunlight."

The set for Tyrell's office was

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Cinematography for Blade Runner

also redressed to serve as two other spaces: Tyrell's bedroom, which was photographed in flickering firelight, and the Tyrell Corporation interview room, which was photographed with bright white shafts of daylight. According to Cronenweth, "That set looks totally different in each situation, and yet it's the same set. The flickering for the firelight was created by arcs shooting through torn strips of silk for transmission and torn strips of Duvateen for shadows."

The most unusual set for the film was the "Ice Room," which was built in a meat storage locker in order to create the effect of a refrigerated genetic-engineering laboratory. The ceilings were repeatedly hosed down over five days to form icicles, and then the crew shot for two days at minus 7°F while it was 98°F outside. Cronenweth started out using arcs to light the set, but soon discovered that they were using more oxygen than was coming into the room, except when the door was open. This necessitated changing to HMIs. The set was translucent along one side, allowing Cronenweth to light the scene through the wall. He added smoke to the scene to compliment the effect of cold breath.

Another interesting photographic problem on *Blade Runner* was shooting the interiors of a flying police car — a "Spinner" — in order to create the illusion of movement. The Spinner was capable of moving in any direction and traveling at very high speeds. Cronenweth explains his approach: "In order to create a sense of the vehicle traveling at night, we used several techniques. We built two sets of programmable strip lights, each about 8' long and each containing 12 Photofloods wired individually and dyed different colors. We placed them on the exterior of each side of the Spinner cockpit. The bulbs were then flashed at assorted intervals in conjunction with each other and individually. Additional movement was created



A vengeful Roy Batty (Rutger Hauer) holds Deckard's life — quite literally — in his hand.

with set lights activated by keyboard, so the lights were literally 'played.' Moving the camera on both axes by using double gear heads, and using wind, water and smoke enhanced the illusion. To create additional movement for day scenes, we'd use clear globes in the strip lights and a moving arc mounted on a Chapman crane to simulate a change in the Spinner's position relative to the sun."

Although most of the picture was shot on a stage, some notable Los Angeles landmarks were used as locations. The exterior of Deckard's apartment was Frank Lloyd Wright's Ennis-Brown house, designed in 1924 using a Mayan block motif. The Bradbury Building, designed by George Wyman in 1893, was used for the violent final showdown between Deckard and replicant leader Roy Batty (Rutger Hauer), as well as for a scene in which Sebastian (William Sanderson) takes Pris to his apartment. The downtown Pan Am building was used for a scene in which Deckard and Gaff (Edward James Olmos) search a hotel room for clues.

However, one of the film's most striking "exteriors" was actually shot at the studio. "The rooftop sequence at the end of the picture was planned to be photographed on real rooftops in downtown Los Angeles," says Cronenweth. "It turned out to be impractical to do it there, however, because of the scope

of the shots and the difficulty of achieving some of the effects. We decided to film the sequence on the Warner Bros. backlot. This required building a couple of moveable rooftop units approximately 30' high. In order to show extreme height, we worked very closely with photographic effects supervisiors Doug Trumbull, Richard Yuricich [ASC], and David Dryer in order to make certain key matte shots, using our rooftop sets as the foreground. Of course, whenever we did a matte shot, we'd use a 65mm camera.

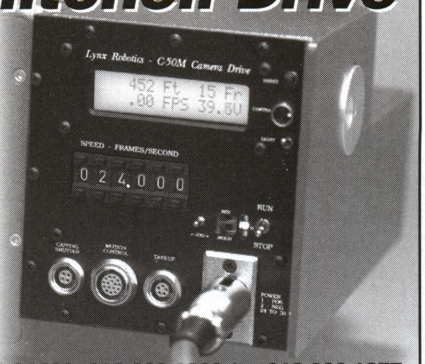
"We had to do a lot of 65mm photography from very high parallels which couldn't move at all. This meant reinforcing the normal parallels with additional steel and weight. [Key grip] Carey Griffith made reservoirs in the bottom of the parallels and filled them with several hundred gallons of water. That, in conjunction with reinforced steel going up the sides of each parallel and the use of solid bracing, made a high, rigid camera platform. We spent over two weeks on top of the roofs, turning them from time to time to obtain new backgrounds. We also worked with rain, smoke, lightning and moving shafts of light in this sequence. However, none of these effects could be used when making matte shots because they disappear in the matte area while remaining in the live-action area. One would then be confronted with matching the matte area effects to the live action rain, smoke, etc. The procedure, therefore, when doing matte shots is to put these effects into the composite on an overall basis later." ■

AC *thanks* Blade Runner *production executive Katie Haber for providing photographs for this article.*

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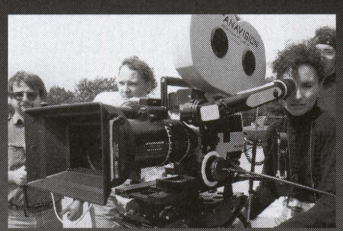
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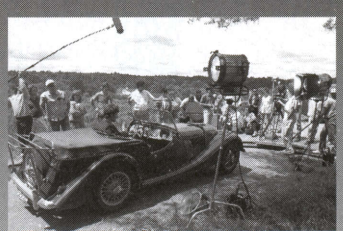
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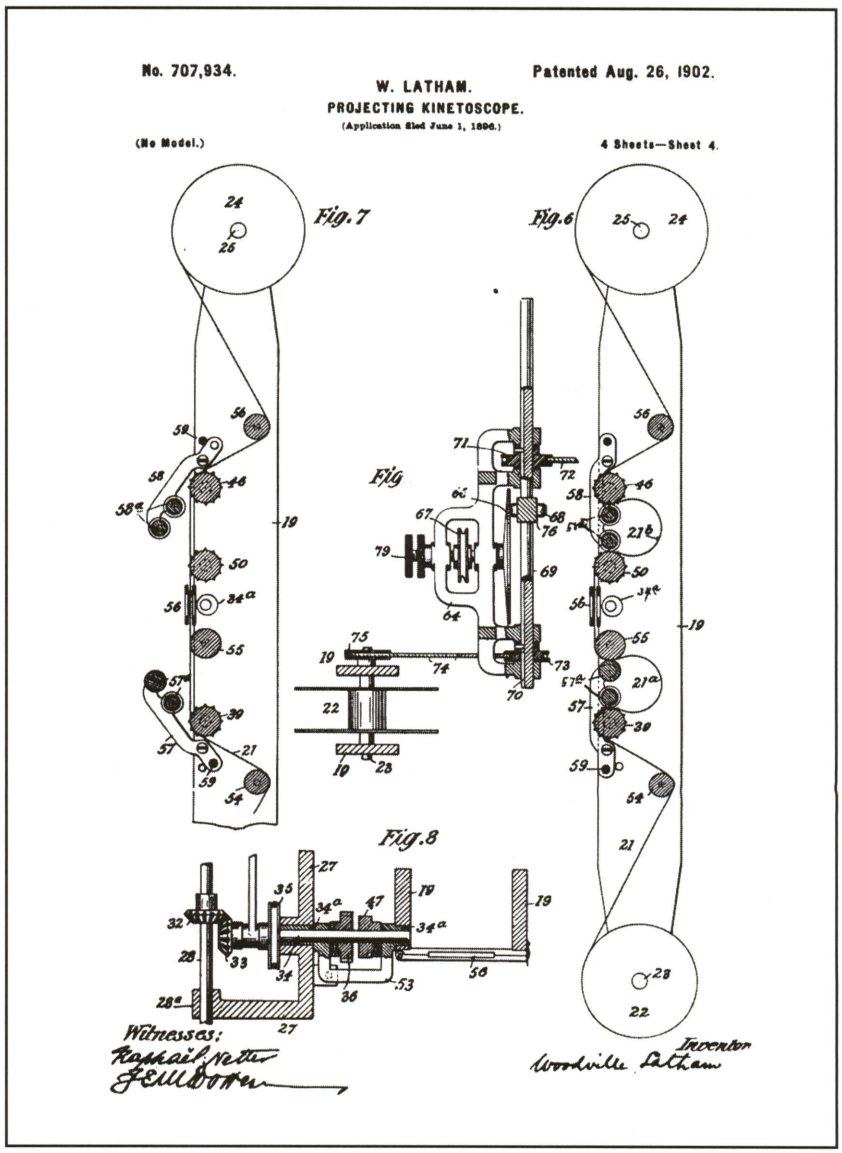
An esteemed film industry expert offers his own list of the most influential technical developments of the 20th Century, and explains how they advanced the art of cinematography.

A personal survey
by David Samuelson

We film technicians are lucky people. We work in a field that has transformed the way humanity sees the world. What's more, we work in a technical environment that embraces and reflects the changing world around it.

There is always a tendency, in any generation, to look at the newest and latest developments as being the best and greatest of all time. Old-timers like me often smile, admire these innovations, and say, "What will they think of next?" However, age and experience tell us that yesterday's miracles will surely become today's so-whats, and be replaced by tomorrow's miracles, whatever they may be.

For a long time, I have had the notion that since the beginnings of



A schematic of the Latham Loop, which allowed filmmakers to push past the limitation of shooting only 100' before having their film tear due to tension on the perforations. While this 1896 invention may be taken for granted today, it was a vital innovation, and as big a breakthrough in film technology as anything that has happened since.

cinematography, there have probably been only 20 or 30 basic inventions that qualify as genuinely momentous developments that forever changed the way films are made.

To be considered for my list, an invention has to be totally original — not a development or an improvement of something that has come before. Also, it can't be just an idea. Secondly, the invention must advance the way a script is interpreted on the screen, and, in cinematographic terms, allow the creation of images that were previously not possible. Thirdly, it should appear to our current belief and experience that, although the technology may have been improved upon, the basic concept is likely to be in use for as long as cinematography itself lasts. Lastly, the invention must be serially manufactured and available to all filmmakers around the world, and not just a one-off to serve a particular purpose on a particular production before being discarded and forgotten until it is reinvented in a more universal form.

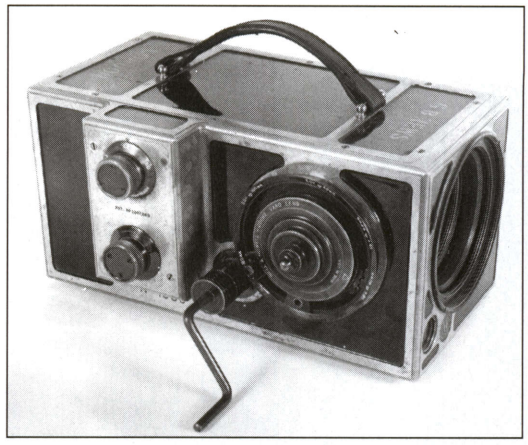
Before the end of the last century, the basic inventions in cinematography were transparent film base, light-sensitive photographic emulsions, the intermittent motion picture camera, the film printer, and the intermittent motion picture projector. These five separate inventions combined gave us "cinema" as we know it today.

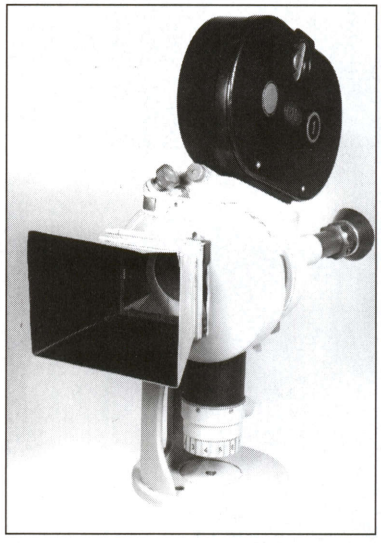
Perhaps the first important invention after the intermittent film camera itself was the use of top and bottom film loops, without which it was not possible to pull much more than 100' (about two minutes) of film off a roll without tearing the perforations. At the time, the loop made it possible to film an entire boxing bout without tearing the film halfway through the first round. For the filmmakers of the time, it was as big a breakthrough as anything that has happened since.

Woodville Latham of the U.S. is usually credited as registering the original patent of the film loop in 1896, but according to a sworn statement by Laurie Dickson (who was the actual inventor of Thomas Edison's intermittent camera in 1892), Eugene Lauste pioneered the loop in 1895 when he invented the Eidoloscope, the first wide-film projector.

The next really important development was the standardization of film emulsion design: the sizes and positions of the perforations, the size and shape of the image area and the position of the frame line in relation to the perforations. The early situation was well summed up in "ABC of the Cinematograph," by Cecil T Hepworth, who wrote in 1897, "I have said that the pictures on films supplied by different makers vary slightly in height, and it follows, therefore, that there must be a slight difference in the distance apart of the perforations, seeing that there are always four holes to a picture. Thus, if you hold up to the light, one on top of the other, two films by different makers, you will rarely see that the rows of holes will exactly correspond for more than a short distance. Sometimes the difference is noticeable in a couple of inches; in others, the holes may seem to correspond for a foot or more."

The perforator that punched four holes at a time — and also incorporated a register pin to locate the film relative to the position of one of the previous set of holes before punching the next set — was enormously important. Each frame was pulled down to the same place relative to one particular perforation of the previous four, making in-camera double exposures possible — the first "special effects." We should be eternally grateful for the pioneering work of Albert Howell of Bell & Howell, for the standardization work and eternal diligence of the Society of Motion Picture Engineers (now the SMPTE) and to other standards organizations and manufacturers throughout the world for making it possible to hold together any two pieces of film, from anywhere in the world, and ensure that they will always coincide.



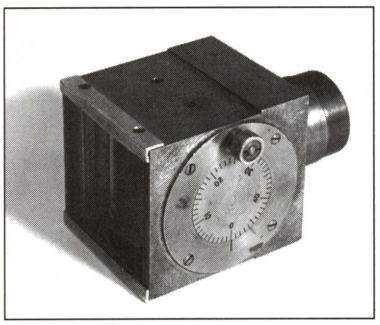


Above: The 40-120mm "Varo," the first serially made 35mm zoom lens using a three-member system, designed by Arthur Warmisham of Taylor, Taylor & Hobson in the U.K. and manufactured by Bell & Howell in the U.S. It was introduced in the spring of 1932 and wasn't an initial success with cameramen. Left: An Arriflex 35, the world's first mirror-reflex motion picture camera. It made its public debut at the Leipzig Fair in 1937.

During the first quarter of the 20th Century, the most important invention was photographic/optical sound, via which the soundtrack was firmly attached to the image so that the two would stay in sync. Eugene Lauste, working in the U.K. in 1906, was the first to patent such a system. He went to America in 1911 to give the first demonstration there of a combined sound-on-film recording and reproduction system. Like so many great inventors, he ran out of money before he could commercialize the project; in 1923, the undertaking fell to Lee De Forest, of Bell

Strokes of Genius





Above: Esteemed cinematographer Leon Shamroy, ASC inspects a descendant of Chrétien's Hypergonar anamorphic lens system (detail at right), which was purchased by 20th Century Fox and popularized in 1952 under the name "CinemaScope." Lower right: Lee De Forest of Bell Laboratories, producer of the first readily available photo/optical sound system.

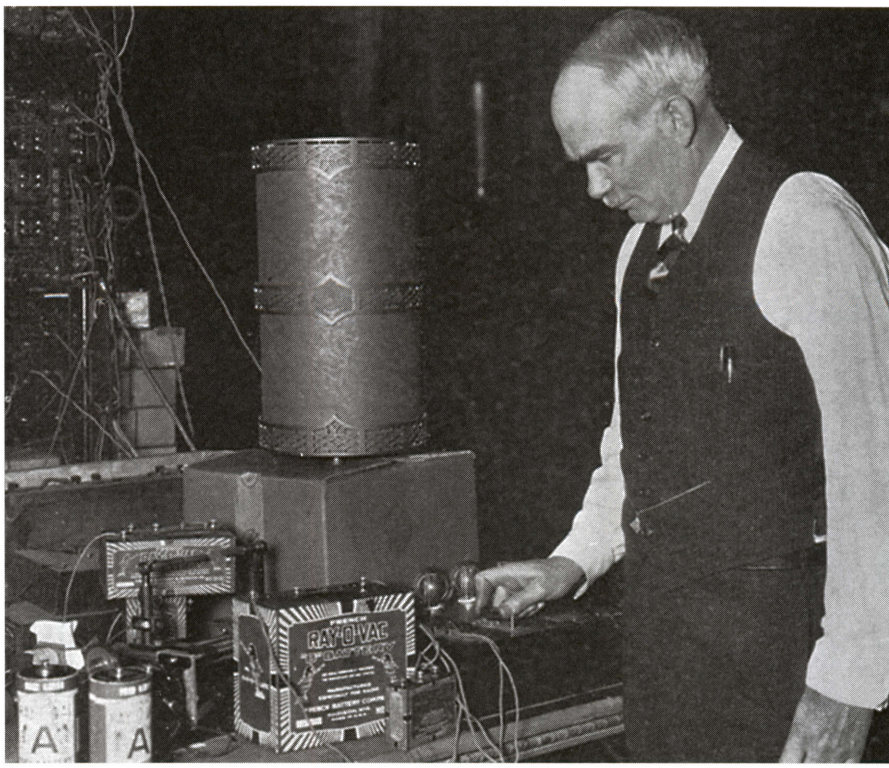
Telephone Laboratories in the U.S., to produce the first photo/optical system that was readily available to all. A number of films with sound content were made after 1925 using both photographic sound-on-film recording systems and any of the many gramophone-disk systems that then existed. However, it was not until the 1927 showing of *The Jazz Singer*, which used the Vitaphone sound-on-disk system, that "talkies" really caught the public's imagination. It was a year later that photographic sound-on-film became the norm.

Two other very important developments in the early part of the century were panchromatic black-and-white film (Eastman Type 2, 1928), which was sensitive to *all* colors of the spectrum and is therefore the basis of all color film today, and rem-jet anti-halation backing (Eastman Kodak, 1934), which eliminated flares created by reflections from the back of the gate and made it possible to photograph subjects set against bright light sources.

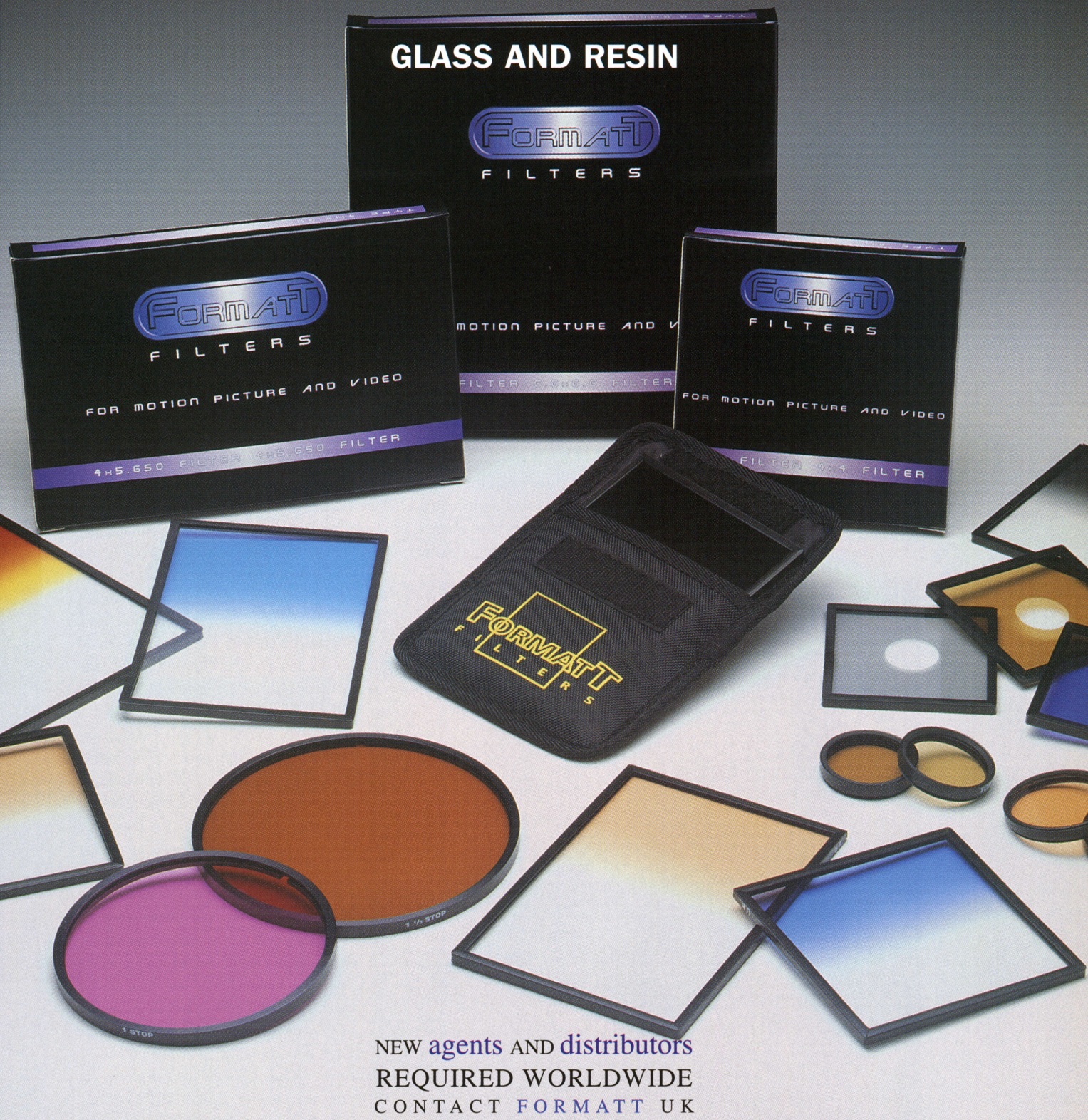
Developed in 1911, the English Moy Gyro was the first 35mm movie camera designed for handheld use. It was originally produced for naval aerial-surveillance cinematography from hydrogen-filled balloons. The camera operator could keep the camera on target despite shifts in wind direction or enemy gunfire. This camera was also notable for being the first to have pre-threaded internal film magazines, reflex viewfinding (either through a twin lens or through the back of the film) and hand grips that enabled the camera to be held away from the camera's center of gravity and close to the operator's body for additional steadiness. Steadiness was further ensured by an electrically driven gyroscopic stabilizer "to overcome the nervous movements of the operator," as it said in the patent. The Moy was also the first 35mm camera to have an internal electric motor drive and a portable battery. (The very early Edison and Mutoscope cameras were also electrically driven, but had batteries like truck batteries.) The handheld Moy aerial camera was not improved upon until the introduction of cameras that carried rolls of film one behind the other and could rest on the operator's shoulder with the viewfinder eyepiece about level with the film gate (Askania, Germany, 1938), and the arrival of Garrett Brown's Steadicam in 1976.

In the first half of the century, there were several optical developments that had a far greater impact during the second half of the century than when they were first invented. These were anti-reflection optical coatings, anamorphic lenses, the zoom lens, and the retro-focus wide-angle lens.

The phenomenon of tarnished lenses producing brighter images than non-tarnished lenses was first noted by H. D. Taylor of Taylor Taylor Hobson (TTH) in 1895, and patented in the U.K. in 1904. However, the real



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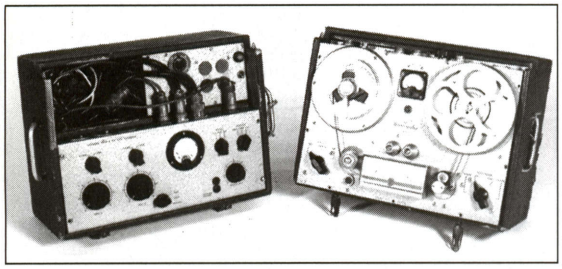
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Above: A Leevers-Rich sound recorder, which simultaneously recorded audio and the camera's sync pulse. Below: The innovative Louma crane at work on a futuristic space-station set during the shooting of the James Bond film *Moonraker*.

impact of this discovery was felt during the 1940s. In the U.S., in 1936, John Strong had developed a method of using a vacuum chamber to deposit extremely thin coatings of magnesium fluoride on lens surfaces. This not only removed internal flare from the current lenses, but led the way for the design of sophisticated multi-element lenses, including modern wide-aperture, wide-angle and zoom lenses to be designed. In Germany, Carl Zeiss had been using a similar process since 1935.

The first anamorphic lens was developed in 1927 by Henri Chrétien of France, based on the optics experiments of E. Abbé in 1897. Though introduced in 1928, Chrétien's Hypergonar lens system was not popularized until after it was bought by 20th Century Fox in 1952 and renamed CinemaScope.

The "Varo," the first serially made zoom lens (40-120mm), was designed in 1932 by Arthur Warmisham of TTH (later Cooke-TTH) in the U.K. and manufactured by Bell & Howell in the U.S.

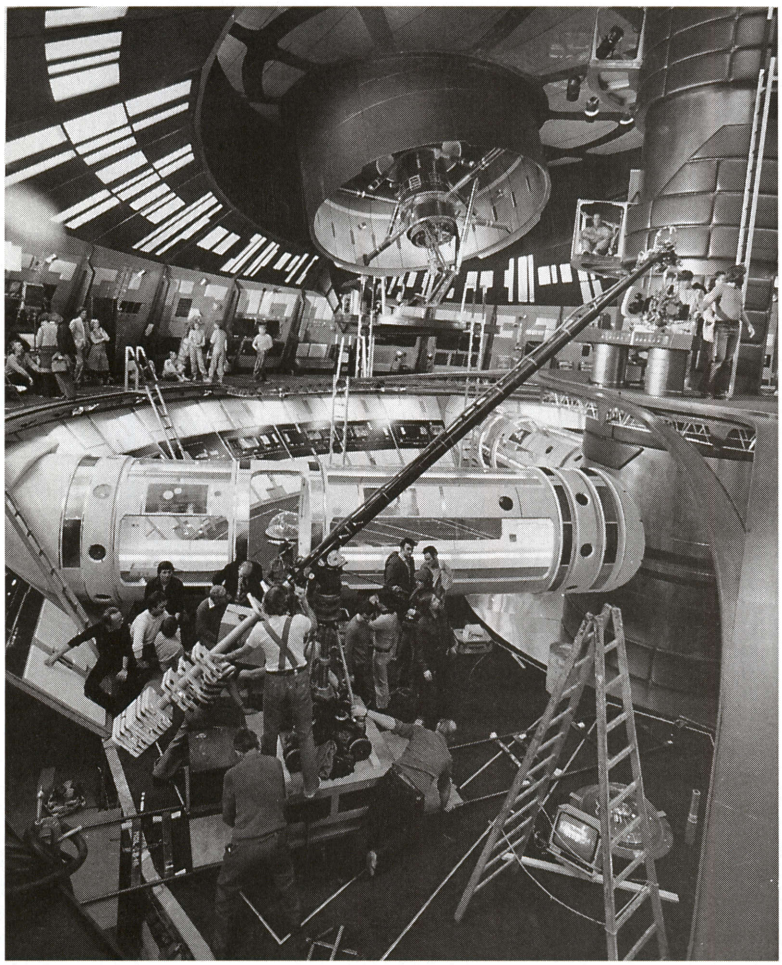
The first distortion-free, retrofocus, inverted telephoto (or wide-angle) lens was designed by H. W. Lee of TTH (and developed by Cooke) for the Technicolor three-strip camera. More significantly, this optics innovation later made it possible to use wide-angle lenses with mirror-shutter cameras.

During World War II, there were three significant developments in Germany, for which the patents were made freely available to Allied manufacturers after the war: magnetic tape (BASF), negative/positive color film (Agfa), and the spinning-mirror reflex shutter (Arnold & Richter).

After the war, there was a flurry of developments that changed many aspects of filmmaking. Rangertone in the U.S., Maihack in Germany and Leevers Rich in the U.K. — individually and on opposite sides of the Atlantic — all developed portable, battery-driven, sync-pulse magnetic sound recorders using the width of the new ¼" magnetic tape to record two tracks simultaneously, one with the audio and the other with a reference of the camera speed (sync pulse). Meanwhile, Eastman and others added a color mask to Agfa's negative/positive color film, and Arnold & Richter continuously developed and refined its original pre-war mirror-shutter cameras.

For the record, the first magnetic recording patent was registered by Denmark's Valdemar Poulson, and it was Fritz Pfleumer of Germany who first demonstrated (during 1928, in Berlin) a magnetic recorder using paper tape coated with steel dust — which AEG manufactured in 1935 and called the Magnetophone. However, it was BASF that first created the magnetic tape that made sound recording possible as we know it today, and it was not until 1948 that RCA of the U.S. developed the first 35mm magnetic film studio recorder.

The general introduction of mirror-shutter and other reflex cameras after World War II went hand-in-hand with the development of the zoom lens. The original Cooke/B&H Varo lens of 1932 gained little acceptance, and only a few were ever sold, but in the 1950s, Som Berthiot of France developed a zoom



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lens with its own reflex viewfinder. Angenieux of France developed a zoom lens with an unheard-of 10:1 zoom ratio, with or without reflex viewfinding facilities. From then on, acceptance of the zoom was complete and non-reflex cameras became obsolete.

In the days of photographic and sprocketed magnetic sound recording, the film camera and the sound-recording machine motors had to be interlocked by a suitably synchronous electrical supply in order to maintain sync. Camera power cables and "turnover" were normally the responsibility of the sound department. The running of machines on location usually was done remotely from the sound truck.

When ¼" magnetic sound recording came in, it was vastly more portable. With sync-pulse generators attached to the cameras, it was only necessary to have a lightweight cable between the camera and the sound recorder. Heavy rotary converters and heavy-duty truck batteries became things of the past. In the studio or on location, where main power was available, the pilot cable could be eliminated and the frequency of the AC supplying the camera could be recorded on the tape and used for sync reference during transfer.

Crystal-controlled camera motors and the crystal-controlled sync generators in ¼" recorders eliminated the last slender pulse cable.

Along with the introduction of lightweight electric camera motors came portable lead-acid batteries. The introduction of nickel-cadmium and sealed lead-acid batteries in the early 1970s may not have had much influence on what could be put on the screen, but it did reduce the number of acid burns on cameramen's clothing.

The quietening of motion-picture cameras so that they could be used while sound was being recorded took a surprisingly long time. First there was the soundproof booth, then the soundproof blimp, and then the blimped camera. It was not until the 1960s that Eclair produced the NPR, a 16mm camera that was "quiet because it made no noise," and it was not until the 1970s that Arriflex and Panavision developed quiet, hand-held, 35mm cameras with internal electric motors.

Camera supports have changed vastly over the years and have been subject to much innovation. The tripod itself dates back to the "BC" (Before Cinema) years, as do the first primitive friction and geared pan-and-tilt heads.

Friction heads were much improved by exchanging their oil-based grease for silicone (O'Connor), which eliminated "stiction" at the beginning of a pan or tilt movement, and by the introduction of variable resistance that could be selected to suit the required maximum pan-and-tilt speeds and give the operator something to push against (RonFord).

Geared heads, as we know them today, are directly descended from the crank heads of the very early silent days. Electronic geared heads — which emulate the fine movements of geared heads — combined with the modular camera crane and the lightweight, through-the-lens video assist, have made a major impact on the way a script can be interpreted.

The hydraulic crab dolly also freed up filmmakers considerably. It can be steered by the front, rear, or all four wheels, tracked forward, sideways or anything in between, and elevate a camera noiselessly from a lens height of about 2' off the ground to the eye level of a tall standing person at any speed. This device is relatively new (having been introduced in the early 1960s), and it is said that the inspiration for the first (Macallister, followed shortly thereafter by Moviola) came from a wartime trolley used for loading bombs into aircraft.

The camera crane goes back a long way. There was a crane-like shot in D. W. Griffith's *Intolerance* (1916), but exactly how it was executed has been lost in the mists of time. The first recorded use of a camera crane occurred during the production of the Universal film *Broadway* in 1929. For the next 50 years or so, cranes were mainly one-off studio or owner-user jobs, each one bigger and heavier than the last. To the best of my knowledge, the first firm to manufacture handy, location-type camera cranes for general sale was Colliacomo of Italy in the early 1960s. These cranes could be broken down into three parts for transportation (dolly, hydraulic extendible central pillar, and boom), and came with a unique tracking system — prefabricated lengths of interlocking twin tubing with sleepers between them, rather like giant toy railway tracks, which could be laid down in sections.

In 1970, two young French cameramen, Jean-Marie Lavalou and Alain Masseron, were planning to shoot inside an operational submarine. They wanted to track down the length of the boat, booming in and out of various nooks and crannies and passing through narrow bulkheads as they went. They contrived to fit a Camflex camera on a gyroscopic pan-and-tilt head at the end of a long pole, which, in turn, was on a tripod mounted to a narrow Elemack dolly. A year or two later, when a more developed version of this rig — dubbed the "Louma" crane — was first being serially manufactured, an electronic remote-controlled head and a lightweight video assist were fitted to the camera. With this, the modular remote-control camera crane was born.

A very significant advance in camera supports was the Helivision anti-vibration helicopter mount (Lamorrisse, France, 1955). It isolated the camera from the unwanted movements of its means of support by attaching the camera to a gimbal

and using a counterweight to keep the camera stable and free of the effects of gravity and centrifugal force. This mount was first used on *The Red Balloon*, which went on to win the 1955 Academy Award for Best Original Screenplay. The film offers a prime example of new technology not only enhancing the way a script can be interpreted, but inspiring the script in the first place. The opening aerial sequence in *The Sound of Music*, 10 years later, was also shot using a Helivision mount.

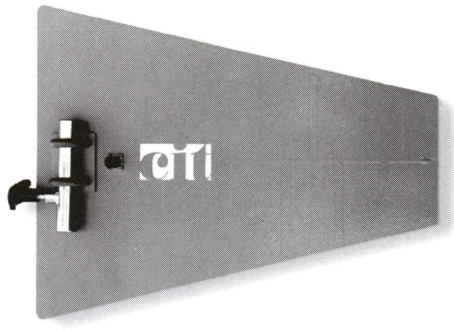
On the lab and optical special-effects side, the developments that have most enhanced the possible interpretations a script are the additive light source, the multi-head optical printer, and the aerial image.

The optical printer grew out of the first primitive, pre-turn-of-the-century step printers, even before there were rotary printers. But the greatest advance in optical printing came during the 1960s with the introduction of the additive light source. In the days of black-and-white film, printers needed only to change the brightness of the printer light source in order to maintain correct frame-by-frame exposure control. When neg-pos color film was introduced in the early 1950s, color-correction filters were added to make the necessary color adjustment by subtracting whichever color was too bright, regardless of how it affected the adjoining colors in the spectrum. The improvement, introduced by Bell & Howell in the mid-'60s, separated the "white" light into three individual light paths, controlling the brightness of the three primary colors separately and recombining them at the end. The difference, particularly when combining several film elements to create a single image, was enormous.

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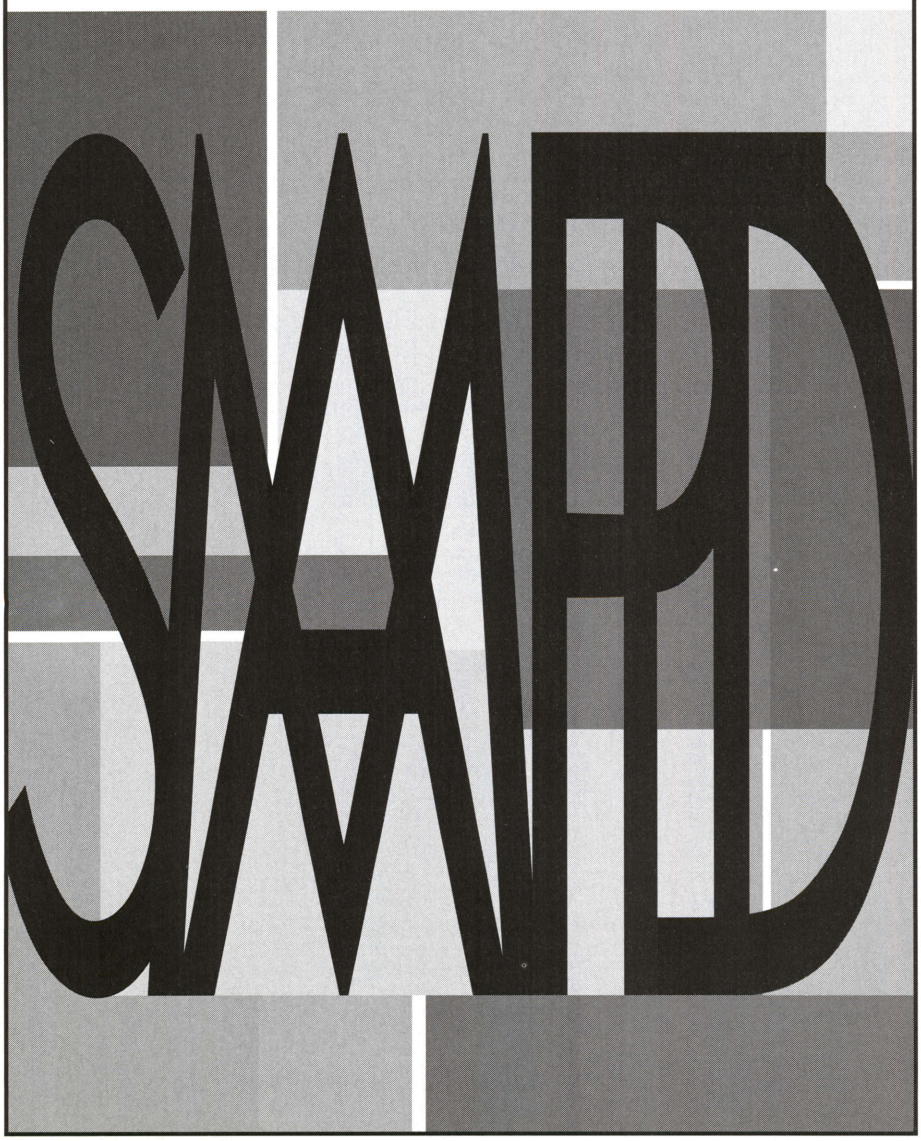
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and-white masks can be struck for subsequent combination printing, goes back a long way in the art of special-effects cinematography. The Williams (1918) and the Dunning (c. 1925) processes were based upon such methods. The first time a blue-screen backing was used with color photography was by Lawrence Butler (U.S.) and Tommy Howard (U.K.) for *The Thief of Bagdad* in 1938/39. However, the 1970s practice of making a "color difference" matte, so that a color in the foreground that is similar to the background can be extracted without creating holes in the matte, was a significant advance.

The use of aerial images in optical printers and animation rostrums — whereby one or more images from other strips of film can be back-projected, focused onto a plane in space, combined with other images and then re-photographed without loss of image quality — made a great impact on the art of optical printing.

The final series of developments ushering cinematography into the new millennium have arrived thanks to the introduction of the computer: computer-aided optical design, computer-controlled motion, computer-manipulated images, and computer-generated imagery. To thank any one individual for all the benefits that the computer has given us is like thanking the inventors of electricity for making it possible to shoot with artificial lights.

The impact of the computer on the cinematographic interpretation of screenplays is so overwhelming that it may be difficult for anyone to fully understand its importance. Of course, there's no doubt that something newer still will be invented in the not-too-distant future, thus rendering today's miracles passé. Yet another generation will grow up proclaiming the arrival of a new paradise, as our pioneering forebears did when the film loop was invented. ■

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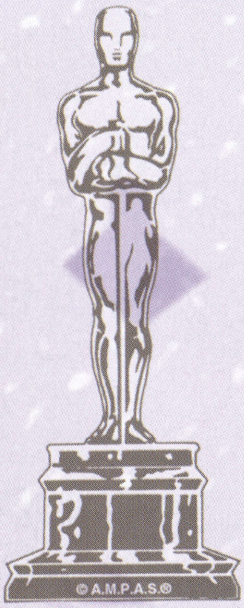
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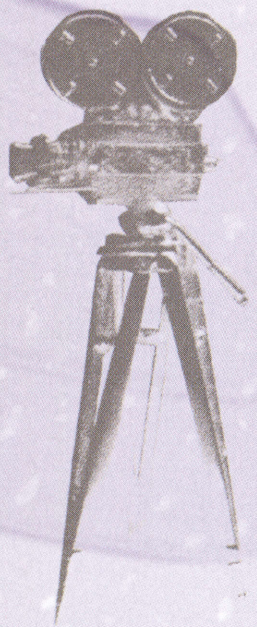


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AWARD-WINNING CINEMATOGRAPHY







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ACADEMY AWARDS FOR BEST CINEMATOGRAPHY

1997 (70th) *Titanic* - Russell Carpenter, ASC
1996 (69th) *The English Patient* - John Seale, ASC, ACS
1995 (68th) *Braveheart* - John Toll, ASC
1994 (67th) *Legends of the Fall* - John Toll, ASC
1993 (66th) *Schindler's List* - Janusz Kaminski, ASC
1992 (65th) *A River Runs Through It* - Philippe Rousselot, AFC
1991 (64th) *JFK* - Robert Richardson, ASC
1990 (63rd) *Dances With Wolves* - Dean Semler, ASC, ACS
1989 (62nd) *Glory* - Freddie Francis, BSC
1988 (61st) *Mississippi Burning* - Peter Biziou, BSC
1987 (60th) *The Last Emperor* - Vittorio Storaro, ASC, AIC
1986 (59th) *The Mission* - Chris Menges, BSC
1985 (58th) *Out of Africa* - David Watkin, BSC
1984 (57th) *The Killing Fields* - Chris Menges, BSC
1983 (56th) *Fanny and Alexander* - Sven Nykvist, ASC
1982 (55th) *Gandhi* - Ronnie Taylor, BSC and Billy Williams, BSC
1981 (54th) *Reds* - Vittorio Storaro, ASC, AIC
1980 (53rd) *Tess* - Ghislain Cloquet and Geoffrey Unsworth, BSC
1979 (52nd) *Apocalypse Now* - Vittorio Storaro, ASC, AIC
1978 (51st) *Days of Heaven* - Nestor Almendros, ASC
1977 (50th) *Close Encounters of the Third Kind* - Vilmos Zsigmond, ASC
1976 (49th) *Bound for Glory* - Haskell Wexler, ASC
1975 (48th) *Barry Lyndon* - John Alcott, BSC
1974 (47th) *The Towering Inferno* - Joseph Biroc, ASC and Fred Koenekamp, ASC
1973 (46th) *Cries and Whispers* - Sven Nykvist, ASC
1972 (45th) *Cabaret* - Geoffrey Unsworth, BSC
1971 (44th) *Fiddler on the Roof* - Oswald Morris, BSC
1970 (43rd) *Ryan's Daughter* - Freddie Young, BSC
1969 (42nd) *Butch Cassidy and the Sundance Kid* - Conrad Hall, ASC
1968 (41st) *Romeo and Juliet* - Pasqualino De Santis
1967 (40th) *Bonnie and Clyde* - Burnett Guffey, ASC
1966 (39th) *Who's Afraid of Virginia Wolfe?* - Haskell Wexler, ASC (black-and-white); *A Man For All Seasons* - Ted Moore, BSC (color)
1965 (38th) *Ship of Fools* - Ernest Laszlo, ASC (black-and-white); *Doctor Zhivago* - Freddie Young, BSC (color)
1964 (37th) *Zorba the Greek* - Walter Lassally, BSC (black-and-white); *My Fair Lady* - Harry Stradling, ASC (color)
1963 (36th) *Hud* - James Wong Howe, ASC (black-and-white); *Cleopatra* (1963) - Leon Shamroy, ASC (color)
1962 (35th) *The Longest Day* - Jean Bourgoin and Walter Wottitz (black-and-white); *Lawrence of Arabia* - Fred A. Young, BSC (color)
1961 (34th) *The Hustler* - Eugen Shuftan (black-and-white);



Left: A youthful dustup from *Great Expectations*, for which Guy Green, BSC won the Academy Award for Best Black-and-White Cinematography in 1947. Below: A ravishing Kate Winslet is pretty as a picture in *Titanic*, which earned an Oscar statuette for cinematographer Russell Carpenter, ASC at the 1998 ceremony.

West Side Story - Daniel L. Fapp, ASC (color)

1960 (33rd) *Sons and Lovers* - Freddie Francis, BSC (black-and-white); *Spartacus* - Russell Metty, ASC (color)

1959 (32nd) *The Diary of Anne Frank*- William C. Mellor, ASC (black-and-white); *Ben-Hur* - Robert Surtees, ASC (color)

1958 (31st) *The Defiant Ones* - Sam Leavitt, ASC (black-and-white); *Gigi* - Joseph Ruttenberg, ASC (color)

1957 (30th) *The Bridge on the River Kwai* - Jack Hildyard, BSC

1956 (29th) *Somebody Up There Likes Me* - Joseph Ruttenberg, ASC (black-and-white); *Around the World in 80 Days* - Lionel Lindon, ASC (color)

1955 (28th) *The Rose Tattoo* - James Wong Howe, ASC (black-and-white); *To Catch a Thief* - Robert Burks, ASC (color)

1954 (27th) *On the Waterfront* - Boris Kaufman, ASC (black-and-white); *Three Coins in the Fountain* - Milton Krasner, ASC (color)

1953 (26th) *From Here to Eternity* - Burnett Guffey, ASC (black-and-white); *Shane* - Loyal Griggs, ASC (color)

1952 (25th) *The Bad and the Beautiful* - Robert Surtees, ASC (black-and-white); *The Quiet Man* - Winton C. Hoch, ASC and Archie Stout, ASC (color)

1951 (24th) *A Place in the Sun* - William C. Mellor, ASC (black-and-white); *An American in Paris* - John Alton and Alfred Gilks (color)

1950 (23rd) *The Third Man* - Robert Krasker, BSC (black-and-white); *King Solomon's Mines* - Robert Surtees, ASC (color)

1949 (22nd) *Battleground* - Paul C. Vogel, ASC (black-and-white); *She Wore A Yellow Ribbon* - Winton Hoch, ASC (color)

1948 (21st) *The Naked City* - William Daniels, ASC (black-and-white); *Joan of Arc* - Winton Hoch, ASC, William V. Skall, ASC and Joseph A. Valentine, ASC (color)

1947 (20th) *Great Expectations* - Guy Green, BSC (black-and-white); *Black Narcissus* - Jack Cardiff, BSC (color)

1946 (19th) *Anna and the King of Siam* - Arthur Miller, ASC (black-and-white); *The Yearling* - Arthur Arling, ASC, Charles Rosher, ASC and Leonard M. Smith, ASC (color)

1945 (18th) *The Picture of Dorian Gray* - Harry Stradling, ASC (black-and-white); *Leave Her to Heaven* - Leon Shamroy, ASC (color)

1944 (17th) *Laura* - Joseph LaShelle, ASC (black-and-white); *Wilson* - Leon Shamroy, ASC (color)

1943 (16th) *The Song of Bernadette*- Arthur Miller, ASC (black-and-white); *Phantom of the Opera* - W. Howard Greene and Hal Mohr, ASC (color)

1942 (15th) *Mrs. Miniver* - Joseph Ruttenberg, ASC (black-and-white); *The Black Swan* - Leon Shamroy, ASC (color)

1941 (14th) *How Green Was My Valley* - Arthur Miller, ASC (black-and-white); *Blood and Sand*- Ernest S. Palmer, ASC and Ray Rennahan, ASC (color)

1940 (13th) *Rebecca* - George Barnes, ASC (black-and-white); *The Thief of Bagdad* - Georges Perinal (color)

1939 (12th) *Wuthering Heights* - Gregg Toland, ASC (black-and-white); *Gone With the Wind* - Ernest Haller, ASC and Ray Rennahan, ASC (color)

1938 (11th) *The Great Waltz* - Joseph Ruttenberg, ASC

1937 (10th) *The Good Earth* - Karl Freund, ASC



1936 (9th) *Anthony Adverse* - Gaetano Gaudio, ASC
1935 (8th) *A Midsummer Night's Dream* - Hal Mohr, ASC
1934 (7th) *Cleopatra* - Victor Milner, ASC
1932/33 (6th) *A Farewell to Arms* - Charles B. Lang, Jr., ASC
1931/32 (5th) *Shanghai Express*- Lee Garmes, ASC
1930/31 (4th) *Tabu* - Floyd D. Crosby, ASC
1929/30 (3rd) *With Byrd at the South Pole* - Joseph T. Rucker and Willard Van Der Veer
1928/29 (2nd) *White Shadows in the South Seas* - Clyde DeVinna, ASC
1927/28 (1st) *Sunrise* - Charles Rosher, ASC and Karl Struss, ASC

EMMY AWARDS FOR BEST CINEMATOGRAPHY

1997 (50th) Series: *Law & Order,* "Stalker," Constantine Makris, ASC; **Miniseries or Special:** *What the Deaf Man Heard,* Eric Van Haren Noman
1996 (49th) Series: *Law & Order,* "Mad Dog" - Constatine Makris, ASC; **Miniseries or Special:** *Miss Evers' Boys* - Donald M. Morgan, ASC
1995 (48th) Series: *The X-Files,* "Grotesque" - John C. Bartley, ASC, CSC; **Miniseries or Special:** *Rasputin* - Elemer Ragalyi
1994 (47th) Series: *Chicago Hope,* "Over the Rainbow" - Tim Suhrstedt, ASC; **Miniseries or Special:** *My Antonia* - Robert Primes, ASC
1993 (46th) Series: *Dr. Quinn, Medicine Woman,* "Where the Heart Is" - Roland Ozzie Smith; **Miniseries or Special:** *Geronimo* - Donald M. Morgan, ASC
1992 (45th) Series: *Law & Order,* "Conspiracy" - Constantine Makris, ASC; **Miniseries or Special:** *Stalin* - Vilmos Zsigmond, ASC
1991 (44th) Series: *Northern Exposure,* "Cicely" - Frank Prinzi; **Miniseries or Special:** *Lady Against the Odds* - Bradford May
1990 (43rd) Series: *Quantum Leap,* "The Leap Home (Vietnam)" - Michael Watkins, ASC; **Miniseries or Special:** *Jackie Collins' Lucky/Chances Part 1*- Gayne Rescher, ASC
1989 (42nd) Series: *Quantum Leap,* "Pool Hall Blues" - Michael Watkins, ASC; **Miniseries or Special:** *Murder in Mississippi* - Donald M. Morgan, ASC
1988 (41st) Series: *Quantum Leap* (pilot) - Roy H. Wagner, ASC; **Miniseries or Special:** *Shooter* - Gayne Rescher, ASC
1987 (40th) Series: *Beauty and The Beast* (pilot) - Roy H. Wagner, ASC; **Miniseries or Special:** *I Saw What You Did* - Woody Omens, ASC
1986 (39th) Series: *Heart of the City* (pilot) - Woody Omens, ASC; **Miniseries or Special:** *Christmas Snow* - Philip Lathrop, ASC
1985 (38th) Series: *Amazing Stories,* "The Mission" - John McPherson, ASC; **Miniseries or Special:** *An Early Frost* - Woody Omens, ASC
1984 (37th) Series: *Miami Vice,* Pilot - Robert E. Collins; **Miniseries or Special:** *Malice in Wonderland* - Philip Lathrop, ASC
1983 (36th) Series: *Mickey Spillane's Mike Hammer,* "More Than Murder" - James Crabe, ASC; **Miniseries or Special:** *A Streetcar Named Desire* - Bill Butler, ASC
1982 (35th) Series: *Casablanca,* "The Masterbuilder's Woman" - Joseph Biroc, ASC; **Miniseries or Special:** *The Winds of War, Into the Maelstrom* - Charles Correll, ASC and Stevan Larner, ASC
1981 (34th) Series: *Fame,* "Alone in a Crowd" - William W. Spencer, ASC; **Miniseries or Special:** *The Letter* - James Crabe, ASC
1980 (33rd) Series: *Hill Street Blues,* "Hill Street Station" - William H. Cronjager, ASC; **Miniseries or Special:** *Little Lord Fauntleroy* - Arthur F. Ibbetson, BSC
1979 (32nd) Series: *The Contender,* "Breakthrough" - Enzo A. Martinelli, ASC; **Miniseries or Special:** *Moviola, The Silent Lovers* - Gayne Rescher, ASC
1978 (31st) Series: *Little House On The Prairie,* "The Craftsman" - Ted Voigtlander, ASC; **Miniseries or Special:** *Rainbow* - Howard Schwartz, ASC
1977 (30th) Series: *Little House On The Prairie,* "The Fighter" - Ted Voigtlander, ASC; **Miniseries or Special:** *Ziegfeld: The Man And His Women* - Gerald Perry Finnerman, ASC
1976 (29th) Series: *Captains And The Kings,* "Chapter 1" - Ric Waite, ASC; **Miniseries or Special:** *Raid On Entebbe, The Big Event* - Wilmer C. Butler, ASC
1975 (28th) Series: *Baretta,* "Keep Your Eye On The Sparrow" - Harry Wolf, ASC; **Miniseries or Special:** *Eleanor and Franklin* - Paul Lohmann and Edward R. Brown, Sr.
1974 (27th) Series: *Columbo,* "Playback" - Richard C. Glouner, ASC; **Miniseries or Special:** *Queen of the Stardust Ballroom* - David M. Walsh
1973 (26th) Series: *Columbo,* "Any Old Port In A Storm" - Harry Wolf, ASC; **Miniseries or Special:** *It's Good to Be Alive* - Ted Voightlander, ASC
1972 (25th) Series: *Kung Fu,* "Eye for An Eye" - Jack Woolf, ASC; **Miniseries or Special:** *Night of Terror* - Howard Schwartz, ASC
1971 (24th) Series: *Columbo,* "Blue Print For Murder" - Lloyd Ahern, ASC; **Miniseries or Special:** *Brian's Song* - Joseph

Biroc, ASC

1970 (23rd) Series: *The Name of the Game,* "Cynthia is Alive and Living in Avalon" - Jack Marta; **Miniseries or Special:** *Vanished, Parts I & II* - Lionel Lindon, ASC

1969 (22nd) Series: *Marcus Welby, M.D.,* "Hello, Goodbye, Hello" - Walter Strenge, ASC; **Miniseries or Special:** *Ritual of Evil* - Lionel Lindon, ASC

1968 (21st) *Here's Peggy Fleming* - George Folsey, ASC

1967 (20th) *It Takes a Thief,* "A Thief is a Thief is a Thief" - Ralph Woolsey, ASC

1966 (19th) *Bonanza* - Haskell Boggs, ASC and William F. Whitely, ASC

1965 (18th) *Voyage to the Bottom of the Sea* - Winton Hoch, ASC

1964 (17th) *Twelve O'Clock High* - William Spencer, ASC

1963 (16th) *The Kremlin* - J. Baxter Peters

1962 (15th) *Naked City* - Jack S. Priestley, ASC

1961 (14th) *Naked City* - Jack S. Priestley, ASC

1960 (13th) *Twilight Zone,* "Various Episodes" - George Clemens, ASC

1959 (12th) *Westinghouse-Desilu Playhouse,* "Untouchables" - Charles Straumer, ASC

1958 (11th) *Bell Telephone Special,* "Alphabet Conspiracy" - Ellis W. Carter, ASC

1957 (10th) *Bell Telephone Science Series,* "Hemo The Magnificent" - Harold E. Wellman, ASC

1956 (9th) *Loretta Young Show,* "The Pearl" - Norbert Brodine, ASC

1955 (8th) *Medic,* "Black Friday" - William Sickner, ASC

1954 (7th) *Medic,* "I Climb the Stairs" - Lester Shorr, ASC

ASC Awards for Best Cinematography

1997 (12th) Theatrical Release: *Titanic* - Russell Carpenter,

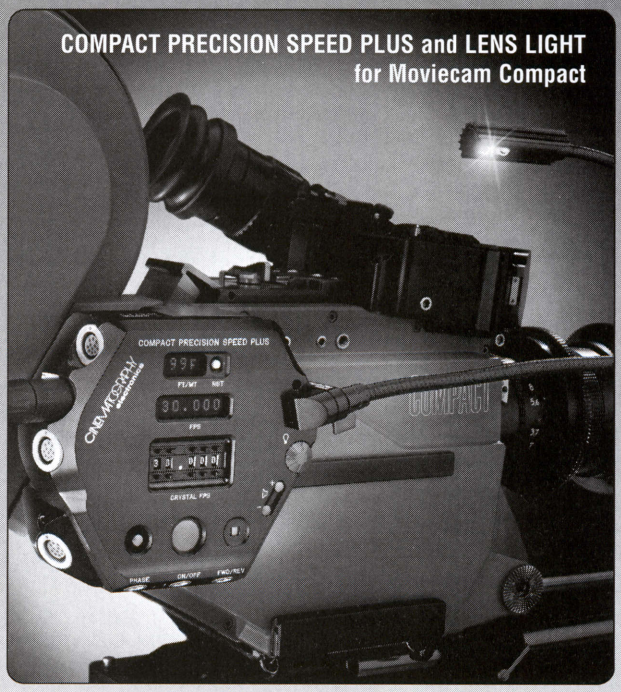
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ASC; **Regular Series:** *3rd Rock from the Sun* - Marc Reshovsky; **Movie of the Week or Pilot:** *Buffalo Soldiers* - William Wages, ASC; **Miniseries:** *George Wallace* - Alan Caso

1996 (11th) Theatrical Release: *The English Patient* - John Seale, ASC, ACS; **Regular Series:** *Murder One* - Aaron Schneider; **Movie of the Week or Pilot:** *Riders of the Purple Sage* - William Wages, ASC; **Miniseries:** *Ruby Ridge: An American Tragedy* - Donald M. Morgan, ASC

1995 (10th) Theatrical Release: *Braveheart* - John Toll, ASC; **Regular Series:** *Murder One* - Aaron Schneider; **Movie of the Week or Pilot:** *Truman* - Paul Elliott; **Miniseries:** *Streets of Laredo* - Edward J. Pei

1994 (9th) Theatrical Release: *The Shawshank Redemption* - Roger Deakins, ASC, BSC; **Regular Series:** *ER* - Thomas Del Ruth, ASC; **Movie of the Week or Pilot:** *ER* (pilot) - Thomas Del Ruth, ASC; **Miniseries:** *Family Album* - Michael Watkins, ASC

1993 (8th) Theatrical Release: *Searching for Bobby Fischer* - Conrad Hall, ASC; **Regular Series:** *Dr. Quinn, Medicine Woman* - Roland "Ozzie" Smith; **Movie of the Week or Pilot:** *Geronimo* - Donald M. Morgan, ASC; **Miniseries:** *Return to Lonesome Dove* - Kees Van Oostrum, ASC

1992 (7th) Theatrical Release: *Hoffa* - Stephen H. Burum, ASC; **Regular Series:** *Jake and the Fatman* - John C. Flinn, III, ASC; **Movie of the Week or Pilot:** *Stalin* - Vilmos Zsigmond, ASC; **Miniseries:** *Drug Wars* - Roy H. Wagner, ASC

1991 (6th) Theatrical Release: *Bugsy* - Allen Daviau, ASC; **Regular Series:** *The Trials of Rosie O'Neill* - Jack Priestley, ASC; **Movie of the Week or Pilot:** *Dillinger* - Donald M. Morgan, ASC; **Miniseries:** *Love, Lies and Murder* - Isidore Mankofsky, ASC

1990 (5th) Theatrical Release: *Dances With Wolves* - Dean Semler, ASC, ACS; **Regular Series:** *Murder, She Wrote* - John Elsenbach, ASC; **Movie of the Week or Pilot:** *Murder in Mississippi* - Donald M. Morgan, ASC; **Miniseries:** *Jackie Collins Lucky/Chances* - Gayne Rescher, ASC

1989 (4th) Theatrical Release: *Blaze* - Haskell Wexler, ASC; **Regular Series:** *Murder, She Wrote* - John Elsenbach, ASC; **Movie of the Week or Pilot:** *Single Women, Married Men* - Gayne Rescher, ASC

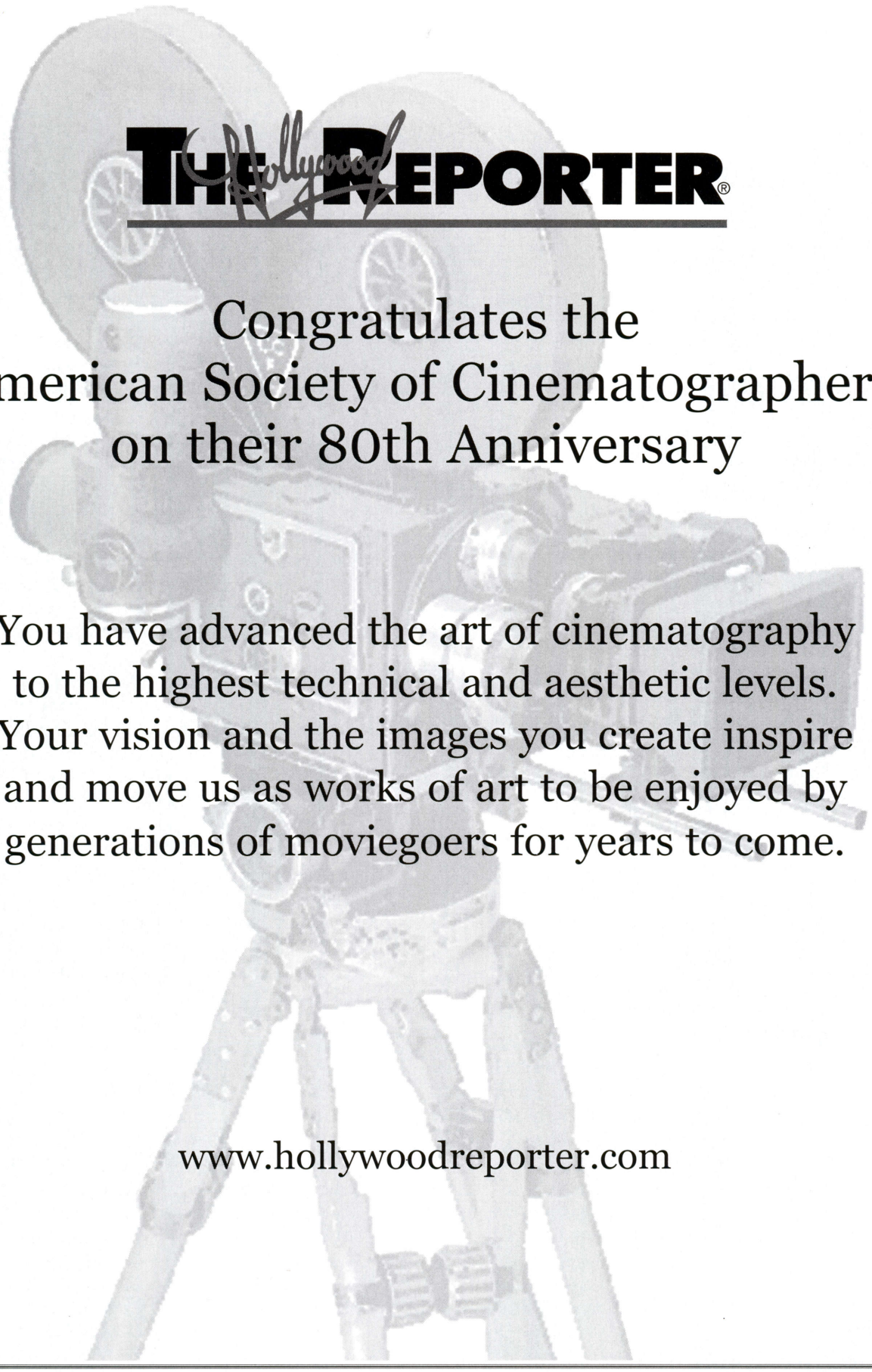
1988 (3rd) Theatrical Release: *Tequila Sunrise* - Conrad Hall, ASC; **Regular Series:** *Paradise* - Richard M. Rawlings, Jr., ASC; **Movie of the Week or Pilot:** *Little Girl Lost* - Philip Lathrop, ASC; **Miniseries:** *War and Remembrance* - Dietrich Lohmann

1987 (2nd) Theatrical Release: *Empire of the Sun* - Allen Daviau, ASC **Regular Series:** *Heart of the City* - Woody Omens, ASC; **Miniseries or Special:** *Christmas Snow* - Philip Lathrop, ASC

1986 (1st) Theatrical Release: *Peggy Sue Got Married* - Jordan Cronenweth, ASC

ASC Lifetime Achievement Award

1998 (13th) Vilmos Zsigmond, ASC
1997 (12th) Victor Kemper, ASC
1996 (11th) Owen Roizman, ASC
1995 (10th) Sven Nykvist, ASC
1994 (9th) Gordon Willis, ASC
1993 (8th) Conrad Hall, ASC
1992 (7th) Haskell Wexler, ASC
1991 (6th) Philip Lathrop, ASC
1990 (5th) Charles B. Lang, Jr., ASC
1989 (4th) Stanley Cortez, ASC
1988 (3rd) Joe Biroc, ASC
1987 (2nd) George Folsey, ASC



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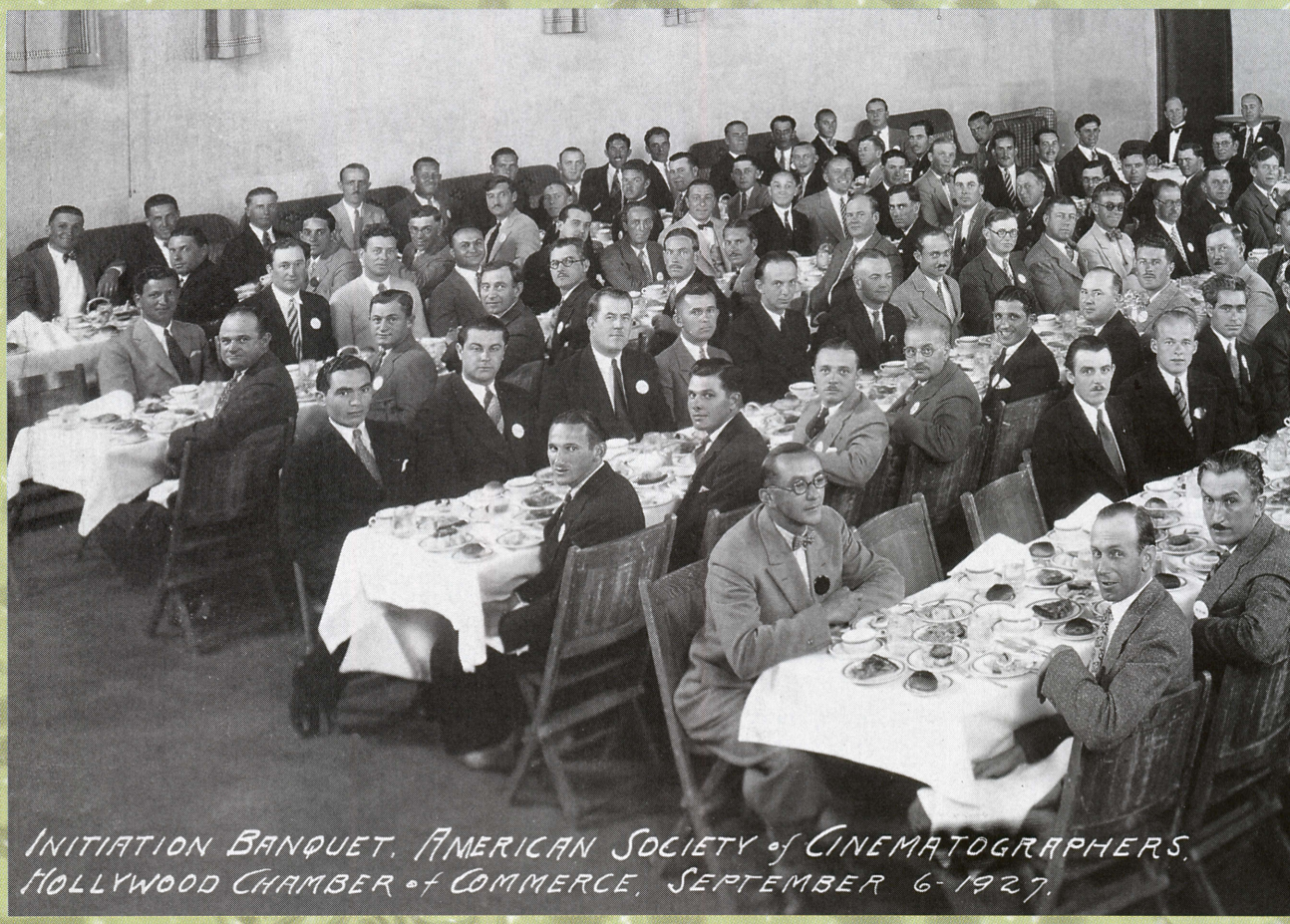
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Woolsey, Ralph
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Levy, Bern
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On September 6, 1927, the ASC welcomed 130 new members during a special initiation meeting held at the auditorium of the Hollywood Chamber of Commerce. The dinner was presided over by Society president Daniel B. Clark and vice presidents John Boyle, Victor Milner and Frank B. Goode. With this act, the ASC's membership increased by 300 percent. Reported Joseph Stillman in *AC* Sept. '27, "The program closed with a wholehearted fraternizing of the new and old members, and the sentiment was general that the occasion constituted the most significant event in the history of motion photography, and that it marked the beginnings of great things for the cinematographic department of the industry."



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Mills, Walter H.
Milner,Jr., Victor
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Mina, Rami
Misener, Garland C.
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Parker, Warren
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Tawil, Joseph N.
Teahan, Jack
Teitelbaum, Harry
Terraneau, Randall
Tiffen, Ira
Tiffen, Nat
Tondreau, Albert
Tostado, Arthur
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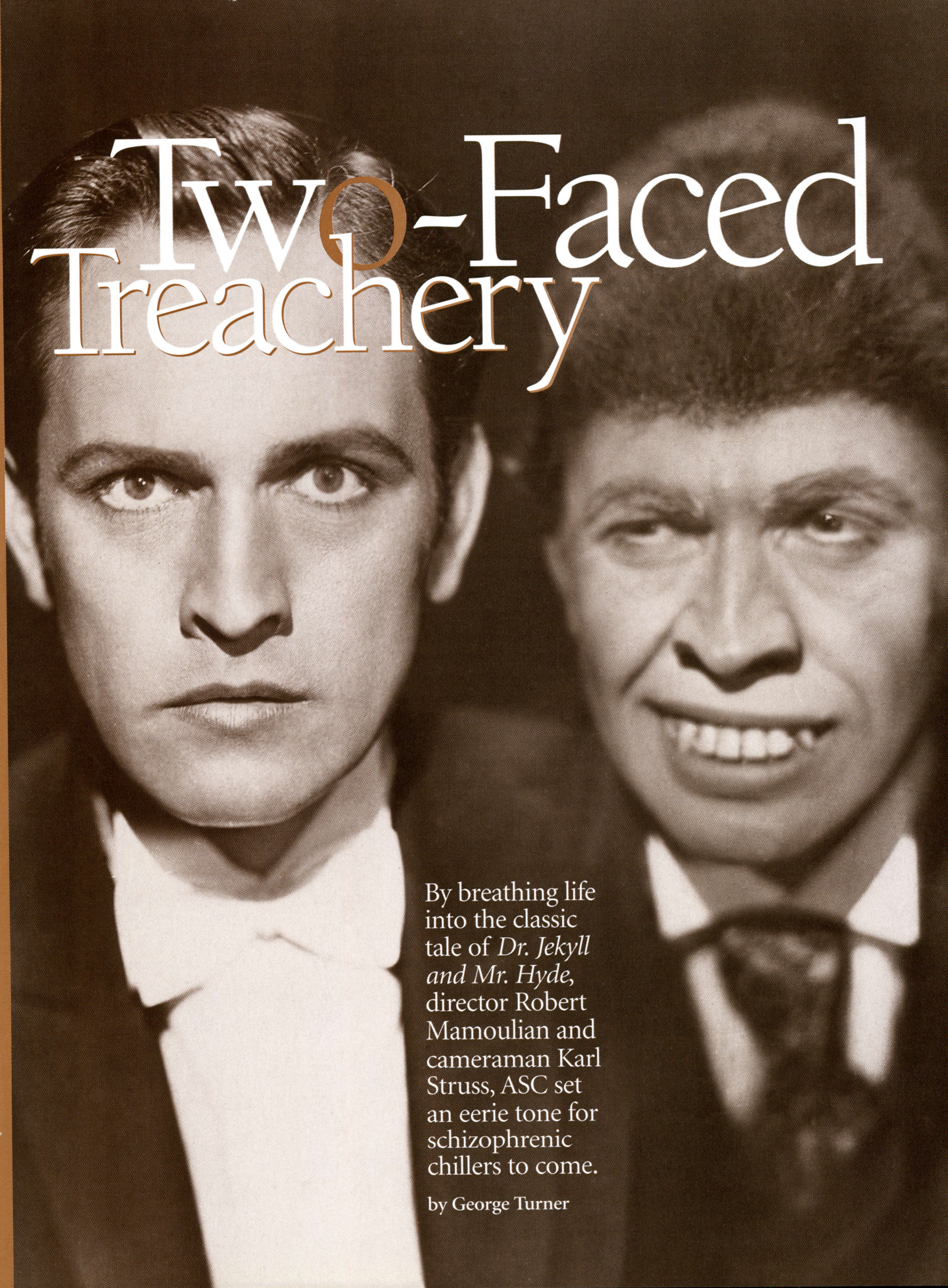
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1983	Ralph Woolsey
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1994-1996	Victor J. Kemper
1997	Owen Roizman
1998	Woody Omens
1999	Victor J. Kemper



Two-Faced Treachery

By breathing life into the classic tale of *Dr. Jekyll and Mr. Hyde*, director Robert Mamoulian and cameraman Karl Struss, ASC set an eerie tone for schizophrenic chillers to come.

by George Turner



When it was first published in the year 1886, Robert Louis Stevenson's novella *The Strange Case of Dr. Jekyll and Mr. Hyde* aroused a storm of controversy. Quaint Victorian sensibilities were outraged by its premise that every human being has a demon lurking within, longing to break loose and indulge in forbidden pleasures. By scientific means, the tale's protagonist, the kindly Dr. Jekyll, frees his suppressed self and plunges into an orgy of uncontrollable licentiousness that ends in an untimely demise.

A year after the book's arrival, Richard Mansfield staged an enormously successful theatrical dramatization of the story. In August of 1888, he brought the play to London's Lyceum Theatre at the invitation of impresario-star Sir Henry Irving, whose manager was, quite appropriately, *Dracula* author Bram Stoker. On August 31, however, a murder was committed by a black-hearted butcher who would achieve infamy under the moniker of Jack the Ripper. By October, three more Ripper murders had occurred. Due to accusations that the play had encouraged these heinous acts, the accomplished stage version of *Dr. Jekyll and Mr. Hyde* play was terminated in its 10th week.

In 1908, the Selig Polyscope Company made a movie version of the Stevenson tale. Other attempts followed, including Universal's 1913 edition directed by and starring King Baggot, which proudly introduced the "dissolving effect," via which Jekyll transforms into Hyde in a fast dissolve. Paramount's East Coast Studio produced the finest silent-film version, starring John Barrymore, in 1920. Spurning Stevenson's middle-aged Victorian hero, Barrymore portrayed Jekyll as young, romantic and adventurous. This version established Jekyll's sexual motivations and emphasized the women in his life. Again, the Jekyll-Hyde metamorphoses were accomplished via dissolves, but with improved finesse.

Spurred by the success of Universal's *Dracula* in early 1931, Paramount decided to remake its classic for the talkies. The new screenplay penned by sophisticates Samuel Hoffenstein and Percy Heath further expanded the possibilities: Henry Jekyll, a prominent young physician, is convinced that each man contains two selves — one good and one evil. His "blasphemous" theory that the two can be separated brings censure from colleagues and friends. Only his fiancée, Muriel Carew, understands, but her wary father postpones the couple's impending marriage. Frustrated, Jekyll drinks the conversion formula himself. His evil self, whom he calls Edward Hyde, takes over his consciousness. Hyde makes a love slave out of Ivy Pierson, a barmaid who had aroused Jekyll's libido, and sadistically drives her to near madness. Jekyll can no longer repress the increasingly dominant Hyde, who murders Ivy after she seeks help from Jekyll. Eventually, Hyde attacks Muriel and murders her father when he intervenes. After being cornered in his laboratory by police (who are led there on a tip from Jekyll's former friend, Dr. Lanyon), Hyde is shot dead. As the life drains from his body, he is transformed into Dr. Jekyll one final time.



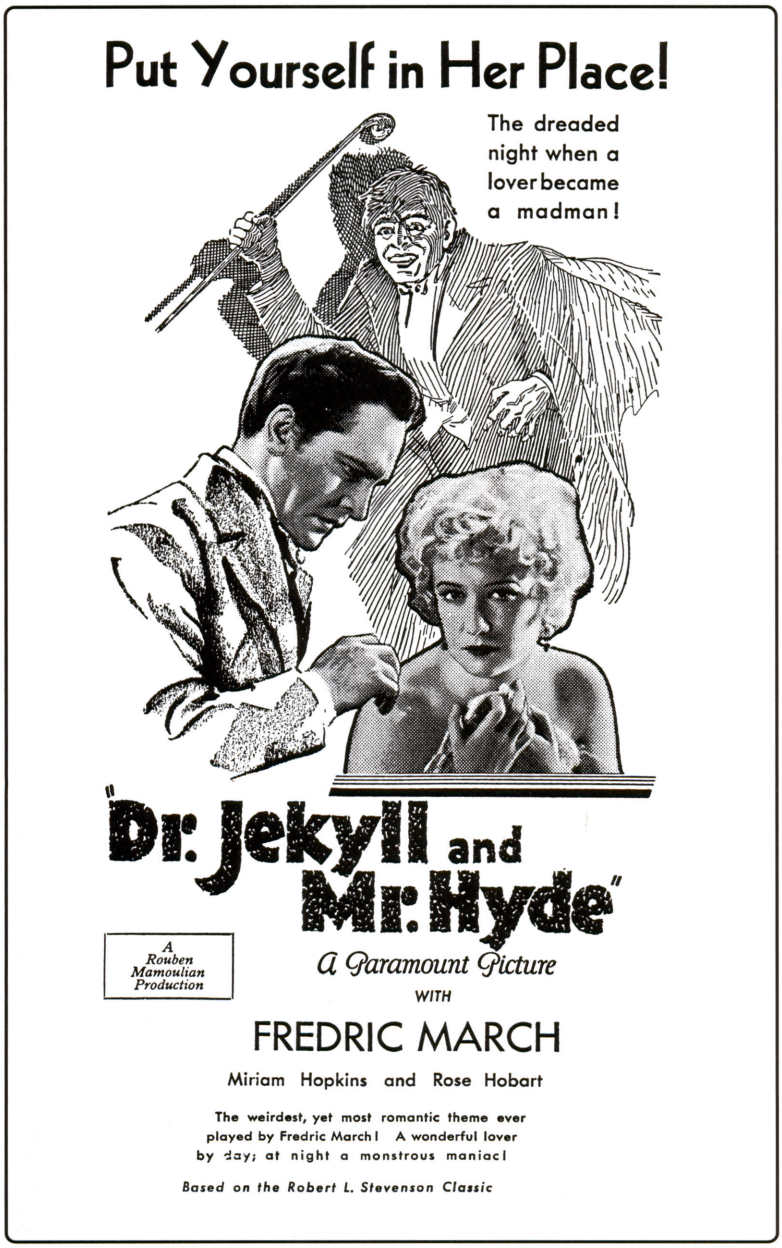
Opposite: March as Jekyll and in his first incarnation as Hyde. Even here, Hyde is unrecognizable as March, and he grows hairier and uglier as the story progresses. This page, left: Ivy Pearson (Miriam Hopkins) is terrorized by her sadistic lover, Edward Hyde. Below: This photo of Karl Struss was sent out by Paramount at Academy Awards time.

Two-Faced Treachery

Second only to MGM in mounting expensive productions, Paramount offered John Barrymore an astonishing $12,000 per week to reprise his performance. Barrymore instead signed with MGM. By the time studio president Adolph Zukor had chosen Rouben Mamoulian to direct, he decided to cast somebody already under contract at a nominal salary — the fine stage actor Irving Pichel.

Mamoulian rebelled, insisting that Pichel would be a fine Mr. Hyde but was not handsome enough for Jekyll. He stumped for — and finally received — another contractee, Fredric March, a light romantic lead. His bosses, however, had little faith in March, despite his stage background and strong resemblance to the Barrymore of 10 years earlier.

Born in Russia's Caucasus region to Armenian parents, Mamoulian was one of many stage directors brought to Hollywood from New York during sound cinema's early years. He had studied at the Moscow Art Theatre and King's College, and was internationally renowned as a director of operas, plays and musicals. Unlike many of his theater colleagues, Mamoulian instinctively grasped the possibilities of film. His first movie, *Applause* (1930), made in Astoria, restored camera mobility and was the first to use two channels of sound. His second, *City Streets* (1931), introduced the concept of having thoughts heard as voice-overs. The third, *Dr. Jekyll and Mr. Hyde* (1932), produced at Paramount's studio in Hollywood, is filled with superbly realized, innovative ideas.



An ad for the film offers the tantalizing promise of licentious drama.

Paramount gave Mamoulian seven weeks of shooting time and a budget of about $500,000 — twice the cost of most A-pictures. He cast 81 actors in speaking parts: 10 principals, 30 players with more than one speaking scene, and 41 bit players with one line or more. About 500 extras appear, including some 150 each in the medical-school and music-hall sequences. A sturdy chap named Robert Louis Stevenson, nephew of the author, appears as a cockney.

Supervising art director Hans Dreier was charged with designing 35 sets representing streets and interiors of Victorian London, including palatial homes, a medical school, a music hall, Jekyll's fantastic laboratory and the streets of Soho. An architect from Germany, Dreier had worked at UFA during the heyday of the German art films before joining Paramount in 1923. Although his sets for *Dr. Jekyll and Mr. Hyde* were authentic to period and country, their German-expressionist quality enhances the aura of mystery. Street settings were closed in for control of lighting, fog, rain and sound recording. Exteriors with gaslights and cobblestoned streets were built in eight separate units to allow for a greater variety of camera angles. Except for a park sequence at Busch Gardens, the entire film was shot on



Left: Preparing to photograph the subjective camera scene of Jekyll playing the organ are Karl Struss (at right in striped shirt) and his crew. Perched above is director Rouben Mamoulian. Fredric March, at the console, lights his pipe. Below: March as Dr. Jekyll in his laboratory.

the lot.

Director of photography Karl Struss, ASC was a New Yorker, but no stranger to German expressionism, having won an Oscar for F. W. Murnau's 1927 masterpiece *Sunrise* (see entry in "Best-Shot Films: 1894-1949" on page 105).

Mamoulian once described his modus operandi to William Stull, ASC in an February 1932 *American Cinematographer* article titled "Common Sense and Camera Angles." He explained, "After the players are well-rehearsed, I study the action through the camera's viewfinder, or through the recorder's earphones... Most frequently, I study it through the camera, for the visual must predominate in a motion picture. It is not only the action that is important, but the way in which the camera sees that action. The cinematographer must light the action to exactly match the mood in which it is played, and must have his camera at exactly the right position matching the dramatic perspective of the scene.

"This is the salient point about camera angles: they must be used to match the dramatic angle of the scene, [and] never for their own sake... If they aid the dramatic progress of the picture, they are good, and must be used; if they hinder it, they must not...

"But the use of camera angles extends beyond this. It definitely enters the realm of the psychological. It can convey the underlying significance of a scene as nothing else can. Take, for instance, a sequence from *Dr. Jekyll and Mr. Hyde.* Dr. Jekyll has just found himself transformed, involuntarily, into Hyde, with no way of returning to his laboratory to secure the chemicals necessary to return him to his real self... He is forced to call upon his friend, Dr. Lanyon, who brings the necessary potions to his own house, where Hyde is forced to use them to restore himself, changing back to Jekyll before Lanyon's horrified eyes. In the scenes which follow, Jekyll, physically and emotionally exhausted, pleads with his friend for forgiveness. Double strength was given to these scenes by the camera angles used. Jekyll is crumpled up in a low chair, pleading piteously with his friend; Lanyon sits behind his desk, which is on a dais, as one on the 'Throne of Supreme Judgment.' The angles from which each is photographed subtly heighten this contrast: Jekyll is always photographed from above, looking up into the camera — an abject supplicant. Lanyon is always photographed from below, looking down at the camera — a stern and uncompromising judge. To enhance these visual contrasts, I placed Jekyll in the lowest chair in the studio, and Lanyon (already on a raised platform), on the highest, severest chair in the studio, to which I added three-inch lifts under the legs."

The director also had very definite ideas about camera movement: "The idea that camera movement will give cinematic movement to an otherwise static scene or study, so prevalent among directors and executives, is basically false...



Two-Faced Treachery

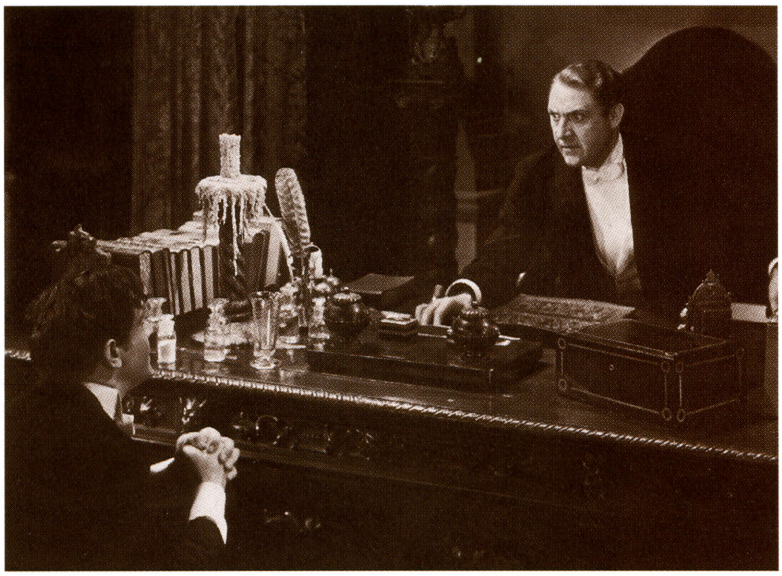


Right: Hyde skulks through an apt setting: Hyde Park (actually the lamented Busch Gardens). Below: A repentant Jekyll grovels before the intolerant wrath of his former best friend, Dr. Lanyon (Holmes Herbert).

Unjustified movement is a sign of directorial weakness, not strength… Once camera movement is decided upon as dramatically necessary, however, director and cinematographer must cooperate closely in realizing it with the utmost of technical and artistic perfection, for a badly executed move is worse than none at all. Many factors must be considered: speed, angle, and above all, rhythm. The preceding action will inevitably have established a definite dramatic (and often physical) tempo or rhythm; the moving camera scene must follow out the same rhythm, or, in some rare instance, increase it.

"Another point where cinematographer and director must be perfectly agreed is the mood of the photography which best suits the picture… Some demand photography that stresses the romantic elements — soft, delicate pictorialism. Others, like *Dr. Jekyll and Mr. Hyde*, demand virile, realistic, almost brutal treatment. Of course, realism does not connote any abandonment of the principles of composition or lighting, but it does signify an abrupt departure from more conventional prettiness. To my mind, *Dr. Jekyll and Mr. Hyde* gained force from the fact that both Karl Struss and I were early agreed that realistic, harsh photography was best suited to it. Karl's treatment of it at once heightened the realism of the central characters and threw the character of Mr. Hyde into sharp contrast by ruthlessly exposing its unreality. Let me also pay Mr. Struss a richly deserved tribute for this achievement, for the complete bouleversement of his usual artistic style revealed him to be an artist of the highest caliber." [Struss was famed for soft-image photography achieved with filters and diffusion.]

Camerawork is used to create audience identification with both Jekyll and Hyde. The good doctor is introduced while observing himself in a mirror, preparing for his lecture. Jekyll's journey to the medical college, the welcoming of his colleagues, and his ascent to the dais are shown from his POV, and we see his face again only as he delivers his speech. The first-person camera is also employed when Jekyll first morphs into Mr. Hyde, and during a scene in which he plays Bach's *Toccata and Fugue* on the organ.



At various junctures in the picture, an inventive use of long dissolves retains ghostly imagery of one scene in the next, in order to convey the notion that the former event remains in the doctor's tormented mind. Thus, Muriel's face holds well into the sequence of Jekyll walking with Lanyon. After Jekyll's erotic encounter in Ivy's bedroom, the parting visual of her bare leg swinging from the bed remains for some 25 seconds while Jekyll good-naturedly parries Lanyon's rebukes. A similar application is made of diagonal and vertical transitional wipes, which pause halfway to let opposing scenes play simultaneously — such as separate shots of Ivy and Muriel, the two women Jekyll desires.

Mamoulian and Struss could never agree on Hyde's physical appearance. Stevenson's Hyde is

"pale and dwarfish," younger, smaller and more athletic than Jekyll (who is 50), and completely unlike him in bearing. A witness remarks, "There is something wrong with his appearance, something displeasing, something downright detestable. I never saw a man I so disliked, and yet I scarce know why. He must be deformed somewhere — he gives a strong feeling of deformity, although I couldn't specify the point. He is an extraordinary-looking man, and yet I really can name nothing out of the way… I can't describe him." Another is unable to explain the "hitherto unknown disgust, loathing and fear" that Hyde inspires. "The man seems hardly human — something troglodytic… or is it the mere radiance of a foul soul that thus transpires through, and transfigures, its clay continent?" Only Dr. Jekyll knew that this beastly quality arose "because all human beings, as we meet them, are commingled out of good and evil. And Edward Hyde, alone in the ranks of mankind, was pure evil."

Mamoulian favored a "troglodytic" countenance for Hyde. He told *AC*, "I wanted a replica of our ancestor, the Neanderthal man that we once were, to show the struggle of modern man with his primeval instincts." The director always refused to explain the methods used in filming March's transformation sequences. In *Rouben Mamoulian's Dr. Jekyll and Mr. Hyde* (Darien House, 1975), which reproduces all of the film's scenes and dialogue, Richard J. Anobile notes that "Mamoulian has yet to divulge what lights and makeup he used for the effect, but no doubt it was accomplished with infrared light." *[Author's note: bad guess.]*

Struss, however, spoke quite freely on the subject. In a 1976 dinner conversation at the ASC Clubhouse, he admitted to a disdain for the idea of Hyde looking "like a monkey. It was terrible. Jekyll's change should have been mostly psychological, a mental rather than a physical change, with subtle makeup.



Even in his opera cape and top hat, Mr. Hyde isn't someone you'd want to meet on the dark streets of Soho.

"The first time Jekyll changed, we used a technique I had devised years before to show the healing of the lepers in *Ben-Hur* [1926]," Struss explained. "Everybody was using orthochromatic film then, which reproduced reds and yellows as black, and gave blue-eyed actors 'fish-eyes.' I had begun using panchromatic film, which is sensitive to all colors. The leprosy spots were red makeup, which registered when shot through a green filter, but when we gradually moved a red filter over the lens, the makeup disappeared. The Hyde makeup was also in red and didn't show at all when the red filter was on the lens, but when the filter was moved down very slowly to the green, Mr. Hyde appeared."

The six Jekyll-Hyde transformations in the film are all visually distinct from one another. Hyde's guise changes each time. He first appears as a man of slight but strong build, with a brutal yet sensuous, definitely human face. In each succeeding metamorphosis, he grows larger and more animal-like, with increasingly fanged teeth, a broadened nose, more pronounced brows and rather profuse hair growth. These subtle alterations keep Hyde's appearance from becoming too familiar, thus maintaining the impact of the transformation.

In the first malevolent makeover, the camera focuses on Jekyll's reflection in a mirror from the physician's POV. As his hand lifts a glass into the scene, the focus changes to tilt towards camera. Jekyll moves closer and suddenly becomes wracked with agony. The doctor clutches his throat as his hands and face darken, his nostrils widen and signs of degeneracy manifest themselves. He falls to the floor, and the room starts to spin. (Actually, the camera was whirled about while an assistant rode on top to rack its

Two-Faced Treachery



Hyde canes a waiter (John Rogers) at the music hall.

focus.) The rapidly dissolving faces and voices of Muriel and the accusing Carew and Lanyon are swept aside by visions of Ivy as he last saw her — in bed, her bare leg swinging over the side as she murmurs, "Come back soon… come back, come back, come back." The camera returns with Hyde peering into the quicksilver pane, where he sees his new face.

Mamoulian devised an innovative use of sound to enhance the first transformation. The director described this sonic novelty to Raymond Rohauer during a 1967 Mamoulian tribute at New York's Gallery of Modern Art: "The transformation, obviously, was not a realistic phenomenon… yet it had to be made convincing to the audience. Now, photographically we had many ways of doing it — through the camera revolving around its axis in a kind of vertigo, the distortion of images, double and triple exposures. All of these were unreal. To score them with realistic sounds would have been quite ineffectual. I felt that the sound elements here had to be as unreal as the visual effects. I [therefore] decided to combine a number of sounds which cannot be heard in real life — eerie sounds of high and low frequencies, approaching subsonic and supersonic levels, photographed directly from light; soundtracks of gongs being struck, with the impact cut out and the resulting tracks run backward. Then I thought this surrealistic melange needed a rhythm, a beat. We tried all sorts of drums, but they all *sounded* like drums — too real. Then an idea popped into my head. I ran up and down a staircase for a couple of minutes, then put the microphone over my heart and photographed the heartbeat. Incidentally, this aural concoction became known in the studio as 'Mamoulian's sound stew.'"

The second switch occurs during daylight in a park, as Jekyll sits happily listening to a lark. A black cat suddenly enters the picture and lunges toward the bird, whereupon the Hyde half of the doctor's personality is aroused. In a close-up, Jekyll grasps at his throat; as before, his hand and face begin to devolve (via the filter effect). The camera jibs down as the hand lowers (to show that both hands have changed) then follows them as they rise to cover Jekyll's face. When he withdraws his hands, we see that Hyde's face has degenerated further — makeup artist Wally Westmore had applied false teeth and a fright wig to the leading man.

After Ivy's murder, Hyde reverts to Jekyll in Lanyon's home. The turnabout is shown in close-up and employs dissolves. However, instead of the silent version's simple method of "morphing," a half-dozen barely perceptible makeup changes are gradually blended together. An 8 x 10 Graflex camera was mounted alongside the movie camera. The actor's position was drawn in on the camera's ground glass, so he could go off to the makeup chair and still be returned to his exact position. Cinematographer John P. Fulton, ASC later plied this technique in *Werewolf of London* (1935) and the *Wolf Man* films.

In the fourth mutation, Jekyll is presented in profile while he spies Muriel through a French window. After he sees his hand ripen, the camera cuts to an angle behind the silhouetted Jekyll as his shoulders broaden and he sprouts six inches taller.

Cornered in his laboratory, Jekyll becomes Hyde in a series of nine dissolving close-ups that are smoother because there is little movement in the scene. The last metamorphosis — the death of Hyde — is also exposed in profile. A dozen 8 x 10 plates captured by Frank Bjerring with a Graflex were

rephotographed onto movie film and connected by dissolves.

March's doppelganger performance is a tour de force that almost amounts to a one-man show. He is featured in 218 of the film's 305 scenes, appearing in 110 as Jekyll and 108 as Hyde. The kind and gallant Jekyll, who chafes under societal restraints, has 297 lines, including his address at the medical college. The rampant satyr Hyde, a bestial lover with murderous instincts, speaks a mere 81 sentences. When the monster first emerges from Jekyll's laboratory into a hard rain, he joyously throws his head back to savor his newfound savagery. He indulges in malicious pranks, such as tripping a waiter, poking his cane up an old lady's skirts and inciting a riot. Furthermore, his scenes with Ivy (Miriam Hopkins) are the essence of sexual sadism.

In a newspaper interview conducted shortly after the picture's release, March recalled, "I tried to show the devastating results in Dr. Jekyll as well. To me, those repeated appearances of the beast within him were more than just a mental strain on Jekyll — they crushed him physically as well. In the last scenes he looked as though he already had one foot in the grave. Hyde was killing Jekyll physically as well as mentally."

The actor experienced that torture firsthand during the excruciating makeup process. An early version of the prosthetics utilized an overall layer of liquid latex and landed March in the hospital. "I had to get up every morning at five o'clock to be at the studio at six," March told Ed Sullivan for his June 14, 1938 newspaper column. "Wally Westmore would start immediately on my eyes. First he'd put collodion under my eyes, so that no perspiration would come through. Then he'd weight the under part of the eye with pieces of surgical cotton to force open the eyeball. The idea was that every time I talked, the eyes would open in an unnatural leer. To accomplish this, he'd attach threads from the cotton down the cheeks and tie them under my chin. As a result, every time I opened my mouth, the lower eyelid would be dragged down an inch. It was horrible at the time, but [it's] interesting to look back at."

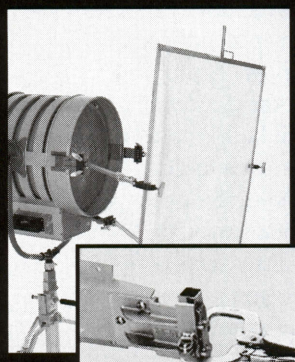
A perfect complement to March's performance was blonde thespian Miriam Hopkins, who could sometimes be "difficult" on the set but is superb as Ivy, a tragic product of the London slums. Rose Hobart, a dynamic stage actress relatively new to moviemaking, had wanted to play Ivy, but instead was cast as Jekyll's devoted fiancée — a difficult role, played impressively and often in close-up. Also fine are Halliwell Hobbes as Muriel's autocratic father, Edgar Norton as Jekyll's faithful servant, and Holmes Herbert as Dr. Lanyon, Jekyll's friend turned nemesis.

Dr. Jekyll and Mr. Hyde opened to great acclaim on Dec. 31, 1931, at the Rivoli in New York City, and was later awarded first prize at the Venice Film Festival. March received a well-deserved Academy Award for his performance, edging out Wallace Beery (for *The Champ)* by only one vote — the Academy opted to give Oscars to both actors. Heath and Hoffenstein were nominated for Best Adapted Screenplay, and Struss for Best Cinematography. Certain that the German cameraman would win, Paramount sent out his portrait with the caption, "Karl Struss, who last night at the Academy of Motion Picture Arts and Sciences banquet received that organization's gold statuette for the outstanding cinematographic achievement of 1931-32 for his work behind the camera on *Dr. Jekyll and Mr. Hyde,* a Paramount film." Alas, the coveted Oscar went to Lee Garmes, ASC for

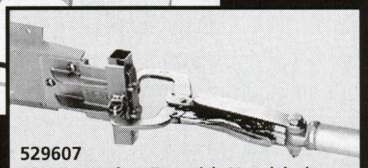


Jekyll is horrified by the marks his alter ego has left upon Ivy.

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In 1935, Paramount submitted the picture to the much stronger Production Code Administration for reissue, and, of course, cuts were demanded. Later, MGM purchased the property for its plush 1941 remake with Spencer Tracy, Ingrid Bergman and Lana Turner. Further cuts were made when MGM reissued the 1931 film on a triple bill with *Mark of the Vampire* and *Mask of Fu Manchu.* Now, restored to its original 98-minute length, *Dr. Jekyll and Mr. Hyde* is available on video. ■

A Paramount Picture *presented by* Adolph Zukor; *a* Rouben Mamoulian *production; directed by* Rouben Mamoulian; *screenplay by* Samuel Hoffenstein *and* Percy Heath; *based on "The Strange Case of Dr. Jekyll and Mr. Hyde" by* Robert Louis Stevenson; *photographed by* Karl Struss, ASC; *art director,* Hans Dreier; *interior decorations,* A. E. Freudeman; *film editor,* William Shea; *technical effects,* Gordon Jennings, ASC; *process photography,* Farciot Edouart, ASC; *musical director,* Nathaniel W. Finston; *organ solos,* Sigmund Krumgold; *sound recording,* Martin Paggi; *costumes,* Travis Banton; *makeup artist,* Wally Westmore; *assistant director,* Robert Lee; *production manager,* "Teet" Carle; *matte artists,* "Mac" MacKechnie, J. E. Simpson; *camera operators,* George Clemens, ASC and Harry Hallenberger, ASC; *assistant cameramen,* Charles Leahy, Fleet Southcott, ASC; *effects photographs,* Frank Bjerring; *gaffers,* Amos Goodell, J. J. Kelly; *properties,* Fritz Collings, Al Hurley; *continuity clerk,* Evelyn Earl; *production assistants,* Wes Stark, George Dutton, Lee Read, Walt Taylor, Harvey Johnson, Earl Crowell, Wade Haden, Florence Rapport, Dick Johnston, "Chick" Collins, Frank Tait, Milton Frisby, Joe Schuster, Charles Anderson, G. L. McDonald, G. Johnston, F. Hansen, Wade Carley, B. B. Lee, G. F. Mahoney; *stills,* Gordon Head; *sound,* Western Electric. *Running time, 98 minutes; released January 2, 1932.*

Dr. Henry Jekyll/Mr. Hyde, Fredric March; *Ivy Pierson,* Miriam Hopkins; *Muriel Carew,* Rose Hobart; *Dr. Lanyon,* Holmes Herbert; *Brigadier-General Carew,* Halliwell Hobbes; *Poole,* Edgar Norton; *Mrs. Hawkins,* Tempe Pigott; *Utterson,* Arnold Lucy; *Hobson,* Colonel MacDonnell; *Waiter,* John Rogers; *Mrs. Luca,* Rita Carlisle; *Briggs,* Eric Wilton; *Student,* Douglas Walton; *Doctors,* Murdoch MacQuarrie, D'Arcy Corrigan, Eric Mayne, Major Frank Baker; *Cockney,* Robert Louis Stevenson; *Dance Extra,* Major Sam Harris.

With fondest memories, the writer is much obliged to Farciot Edouart, ASC, Rouben Mamoulian, Edgar Norton and, especially, Karl Struss, ASC.



The classic 1922 cover, illustrated by Lewis Physioc, ASC.



Above: The original "astro-cameraman" element delivered to Digital Domain. Below: The shot after extensive digital enhancement by artist Filippo Costanzo.



Remaking a Classic Cover

Faced with the challenge of creating a striking image for for the cover of this special 80th Anniversary issue of *American Cinematographer*, the magazine's editorial team looked into the past to envision the future. Astute readers will immediately recognize our muse.

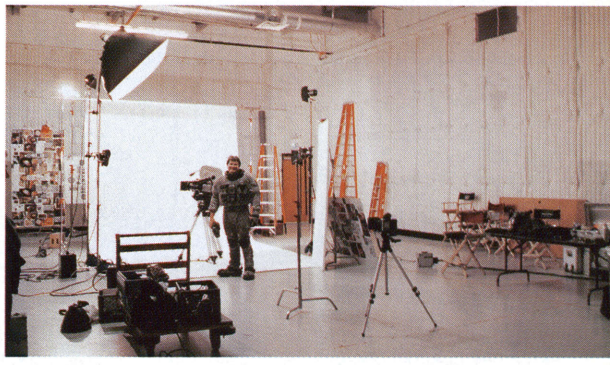
In the 1920s, Lewis Physioc, ASC contributed spot illustrations to the magazine which often took a thoughtful look at the cinematographer's craft. In December of 1922, one of his drawings was used for *AC*'s cover. Fancifully depicting a cameraman in space, it offered the slogan "Give Us a Place to Stand and We Will Film the Universe." An instant classic, Physioc's imaginative illustration has been reprinted in *AC*'s pages many times.

Seeking to link the magazine's future to its rich history, art director Martha Winterhalter turned to Physioc's work as a starting point for this issue's cover image, but proposed re-creating it photorealistically by using today's visual effects methods.

Fortunately, *AC*'s many friends came through in spectacular fashion when asked to contribute their valuable time, effort and skills to this unusual project.

Seeking top-notch visual effects talents, one of the first calls was made to Robert Hoffman, the director of publicity for Venice, California-based Digital Domain. He enthusiastically joined the *AC* team and helped outline the techniques needed to bring Physioc's illustration to three-dimensional life.

Still photographer Ian Logan was recommended to shoot a photo element of the astro-cinematographer, while the character's spacesuit was procured from Disney Studios Costume Rentals — it had been specially made for the Touchstone film *Armageddon*.





With the generous help of Panavision's director of creative services, Frank Kay, and stage manager Chris Gurrola, the photo shoot was done at the company's headquarters in Woodland Hills.

Emulating the lighting in Physioc's illustration, Logan utilized a large softbox for his key on the cameraman — using a piece of foamcore for bounce fill on the figure's back — while the white seamless was lit separately. The resulting 2¼" transparency was delivered by Winterhalter to Digital Domain, along with a rough design

Top: The photo shoot was conducted on Panavision's stage at their Woodland Hills headquarters. In addition, they provided a Millennium Panaflex camera to be used as a placeholder and lighting reference for the "camera of the future." Bottom: *AC* associate editor David Williams (with a bad case of helmet-hair) and still photographer Ian Logan take a breather.

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for a "futuristic" camera to replace the Panaflex used during the shoot.

The starfield and moon elements of the stellar cover scene were taken from Digital Domain's image library. The Earth was supplied by Mike Gentry of the Media Resource Center at NASA's Johnson Space Center, and then enhanced by art director Ron Gress, who corrected colors and removed artifacts created by the scanning process. After the cameraman image was digitized, the elements were delivered to artist Filippo Costanzo.

The Earth and moon originally appeared quite flat, so Costanzo re-lit them from the left side as per Physioc's drawing, using Amazon Paint to create the desired shading and directionality. He likes Amazon's simplicity and ease of use, which caters to his skills as an architect and traditional artist. Costanzo then keyed out the white background from the cameraman element and adjusted the shading on the right side of the figure.

Costanzo notes that the use of the white background during photography created a wraparound lighting effect on the cameraman, helping to tie him to the mysterious fantasy mist element, which the artist painted in by hand.

Using Panavision's new Millennium as his basis, Costanzo then built the hybrid camera by adding a video viewfinder and other fictional components.

The finalized elements were composited using Digital Domain's proprietary "Nuke" software and exported as a single high-resolution, layered Photoshop TIFF file.

Finally, *AC* design consultant Alan Alpanian adjusted the finalized elements so they would fit the cover's typography requirements.

The entire *AC* staff would like to thank our creative partners for helping us create this month's cover, which would not have been possible without them. ■

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New Products

A Camera for the 21st Century

AC examines Panavision's next-generation production camera, the Millennium.

by Christopher Probst

In 1972, Panavision president and founder Robert Gottschalk unveiled the first Panaflex silent reflex camera (see *AC* Nov. '72). Its groundbreaking modular design — built around the well-established Mitchell-style, pin-registered movement — allowed for unparalleled versatility. Capable of performing as a fully-featured studio camera, and accommodating Panavision's widely popular lenses, the Panaflex could be quickly reconfigured into a lightweight, hand-holdable unit. Additionally, it incorporated state-of-the-art electronics, ergonomic styling, and a fully compatible set of standardized accessories.

The Panaflex camera made its feature-film debut on Steven Spielberg's first studio project, *The Sugarland Express*, which was photographed by Vilmos Zsigmond, ASC (see *AC* May '73). In 1978, the Academy of Motion Picture Arts and Sciences honored Panavision and its engineering staff with an Academy Award of Merit (Oscar) for the concept, design, and continuous development of the Panaflex. Over the course of the following decade, the camera platform — dubbed the Golden Panaflex — would become a standard for the motion picture industry.

Panavision continued to integrate the latest technologies and improvements into the Gold's design by retrofitting earlier models, and later introduced the Golden Panaflex II (GII). This research and development ultimately resulted in the creation of the Platinum Panaflex (*AC* Dec. '86), which offered improvements in the viewing optics and electronics, ran quieter, and was significantly lighter — while maintaining full compatibility with existing Panavision products. (The company's history has been more fully detailed in *AC* April '77 and Feb. '97.)

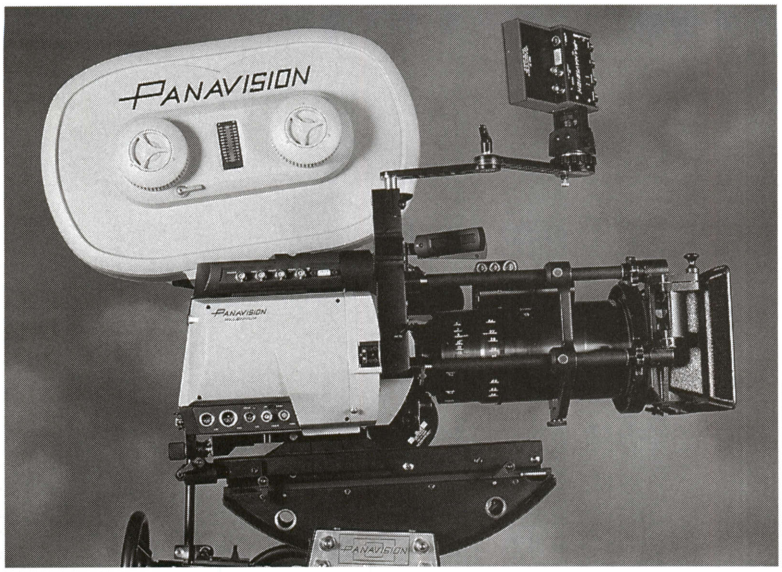


The Millennium comes outfitted for studio operation — with on-board/witness-camera monitors and the LAC controller — and can be quickly converted for Steadicam usage by removing the viewfinding optics.

Photos by Christina Peters

However, by the early 1990s, Panavision's president and CEO, John Farrand, determined that a new version of the Panaflex camera system — incorporating over 20 years of design refinements and customer feedback — should be developed. The goal was to examine and rethink every component of the company's field-tested design and integrate the latest space-age materials and technologies into its structure — just as the company had done with the very first Panaflex. Thus, the Millennium Panaflex camera system was born.

In charge of overseeing the Millennium's design was Panavision's director of product development, Nolan Murdock, who orchestrated this task with the designer of the original Panaflex, Al Mayer, Sr., and his team. "In 1992, we started conceptualizing and thinking about the camera, which was code-named the 'SLQ' — which stood for smaller, lighter and quieter," Murdock reveals. "We went through [the Gold and Platinum] module by module, and looked



Top: The Millennium's "dummy" motor side. Center: The focus-tube section of the viewing optics — showing the anamorphic/ spherical and open/close selectors at the upper left, and the knurled locking knob on the right. Right: The short, orientable "handheld" eyepiece.

at the reflex mirror, the video and viewfinder optics, the shutter, the motors, the drive mechanisms, the control electronics, and the movement — asking ourselves what could we do to improve it. We knew there were certain functions that we wanted to incorporate into the viewing system that necessitated a complete redesign of the optics from scratch. Our customers have always requested backwards compatibility. Therefore, this had to be one of our primary goals, and made the design task much more difficult. Over the years, we have developed accessories such as Smart Shutters, FTZSACs [focus, T-stop, zoom, speed-aperture controller] and other modular devices which could be mounted on Platinums, Panastars, or Golds, but we now felt we could build them *into* the camera. However, if you're on a show in which you have a Platinum *and* a Millennium, you may want to carry an older FTZSAC for the Platinum, so we designed the Millennium to work with both the older and newer units. Making the Millennium compatible with virtually every accessory in our inventory proved to be an enormous challenge, but we had done it before. In fact, only a few components aren't completely backwards compatible with the Millennium. You can't mount a Millennium magazine on a Gold, and the Millennium's extension viewfinder cannot be used on other Panaflexes. However, you *can* mount

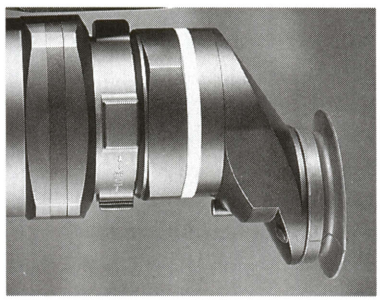


Millennium magazines on Platinums and Panastars, and *any* of the older Panaflex magazines can be mounted on the Millennium."

An interesting aspect of the Millennium's evolution was the enlistment of the Thousand Oaks, California-based industrial design firm RKS to update the visual styling of the camera — while maintaining Panavision's instantly recognizable look — and increase the platform's ergonomic functionality. Murdock notes, "Additionally, we wanted to make the system as user-friendly as possible, so it would not require a lot of user retraining, particularly in terms of muscle memory [usage]. A lot of assistants can thread a camera without even looking. For that reason, the Millennium threads the same way, and its new magazines load the same way, as other Panaflexes. However, the inching knob isn't on the back of the camera anymore. It's now on the inside, which is the *one* muscle-memory aspect of the camera that people will find different."

Optics

The viewing system is perhaps the most personal link between any camera and its operator. The experience of viewing an image through the viewfinder — taking into account the brightness, clarity, coloring, and ease of adjusting the eye to the optics — is often the sole contributing element in a user formulating an impression of the entire camera system. With that in mind, Panavision's optics design team — headed by executive vice president of R&D and Optics, Iain Neil, with mechanical components designed by mechanical engineer Rick Gelbard — set out to devise a viewing system for the



Millennium of unparalleled quality, durability and versatility.

"The overall concept for the Millennium camera was for it to be modular," Murdock submits. "We wanted to be able convert the camera quickly for use in Steadicam, handheld or studio configurations. The design goal for the viewing system was therefore to make it completely removable, in the field and without any tools, in a few seconds. Iain approached the viewing-system optics the same way he approaches designing a Primo lens."

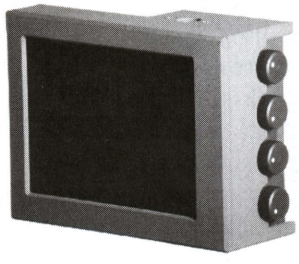
The Millennium system offers two entirely new eyepieces: a short, orientable one for shooting handheld, and a telescoping extension version for studio-style work. "Instead of having separate medium and long extension eyepieces," relates Murdock, "the Millennium has the telescoping extension eyepiece, which, in its compressed position, is slightly shorter than a medium eyepiece. Fully extended, it's about the same length as the existing extension eyepiece, and the image size

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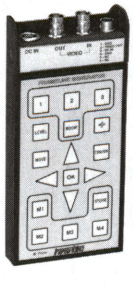


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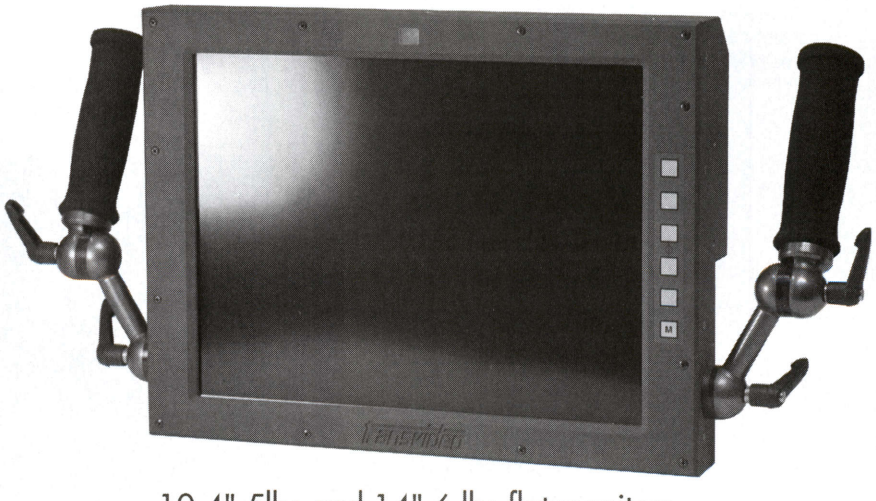
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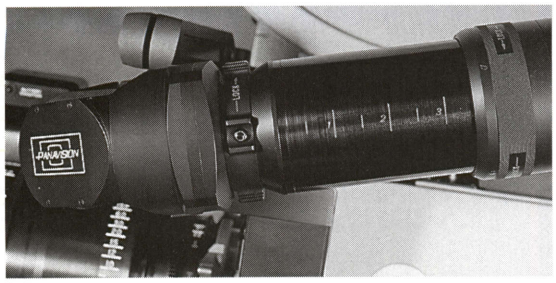
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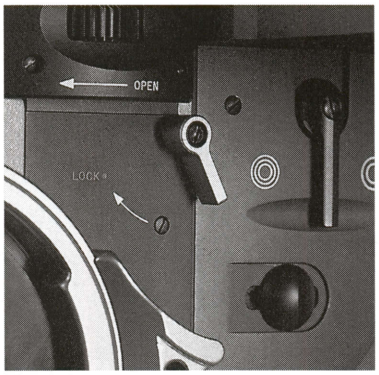


Above: The extension eyepiece can telescope approximately four inches and may be locked in any intermediate position. Right: Controls for the video-tap iris — as well as the two contrast-viewing filters integrated into the focus tube — are located on the faceplate. Bottom: The video tap can deliver full-resolution imaging through a special 9-pin component-output connector and features a frameline generator and frame store.

and focus remains the same over its entire telescoping range of about four inches. For the handheld eyepiece, we worked very hard to compress its length so the operator wouldn't have to tilt his head way back. Also, with a rhomboid prism, we can accommodate right-eye, left-eye and center positions. Additionally, both eyepieces have built-in Panaclear heaters, and we increased the diopter range substantially via internal focusing optics."

Perhaps one of the most significant advancements made to the optical train is the creation of a dual image-plane system for ground-glass focusing. This design allows the camera to be configured, if desired, with a clear-plate "format screen" in place of the standard, first image-plane ground glass. The ground glass can then be relocated to a second collimated image-plane located inside the viewfinding optics. "There are basically four sub-modules in the optical assembly," notes Murdock. "There's the video tube, which always remains attached to the camera and routes the image to a CCD via a beamsplitter; the focus tube, which relays the first image to a second image located just before the eyepiece; and the two different eyepieces. Additionally, there are still the two ND contrast filters, the 2x magnifier, the Panaglow and the anamorphic /spherical selector.

"In the Millennium, we use a full-size, spinning mirror for the reflex function of the camera," he elaborates, "but unlike other cameras, we don't use the mirror as the actual shutter — we have a true focal-plane shutter for that. So, after reflecting off the mirror, the light focuses at the first image plane — where a ground glass is normally placed — which is in the same exact location as it is in all other Panaflexes. However, in the Millennium, that first image plane can either be a true ground glass, or a clear plate with format lines, which we call a format screen. After that first image plane, the light is then relayed to a second image plane in the focus tube. Because of the high image-quality produced at *both* the first and second image planes, the ground glass and format screen are interchangeable [between these two planes].

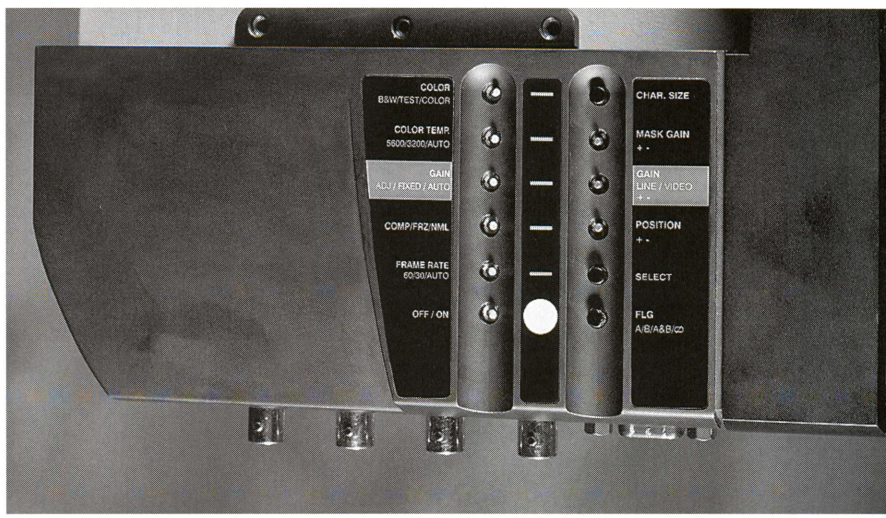


In a conventional mode of operation, a ground glass sits at the first image plane, while a dummy glass plate sits near the second image plane (to keep the optical path-length constant). "In a 'video-priority' mode," Murdock explains, "the format screen sits at the first image plane, while the ground glass is placed at the second image plane. Having the clear-format screen at the first image plane delivers a *very* clear video image. Taking a video image through a ground glass actually limits the video's resolution to anywhere between 250 to 300 lines, depending on the grind or type of the ground glass. And of course, the more you stop down, the grainier it gets. Even if you had an HD video tap on your camera, you would still never see any more than 250-300 lines of resolution. But by having the option of using a clear first image-plane, you can get all of the resolution that the video tap makes available to you." It should be noted, however, that this secondary video-configuration option cannot be set up in the field.

"Video assist is becoming an increasingly utilized production tool," relates Murdock. "Whether you're using it simply as a viewing and playback device, or if you're doing pre-cutting or rough effects compositing on the set, we wanted to design a video optical path — as well as an electronic processor — that would give the best performance possible. By putting the video-path first in the viewfinder optics, we could additionally shrink the video-relay optic's path-length, which, in turn, increases the light level of the video."

Video Assist

In addition to the improvements made to the video tap's optical path, progress was also made with the Millennium's specially-designed video electronics, an area spearheaded by Wynn Bowers, senior electronic designer at the PanaLab, Panavision's research facility in Cambridge, Massachusetts, which is headed by Moe Shore. "There





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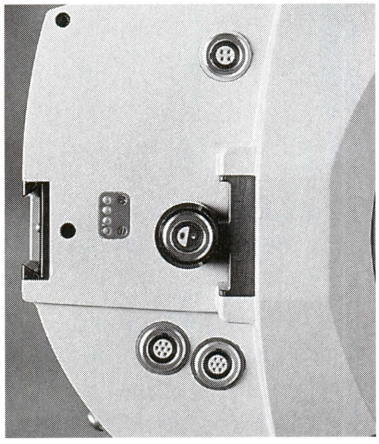
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Near right: The camera's integrated FTZSAC uses three additional Lemos on the front faceplate, allowing focus, T-stop and zoom motors to be plugged directly into the body. Far right: The main panel features accessory, 24-volt power and heater ports, as well as BNC and RS232 connections to use with FTZSACs and new Digital-Link controllers. Bottom: Providing a third digital display, the rear panel is also used for the setting of speed and shutter values. The panel also has buttons for phasing, a port for the LAC, and an RS232 port for advanced digital interfacing. Opposite: As on the Platinum, the status-indicator alerts the user to low-film, roll-out or jam, loss of sync, and low-battery voltage, and has a two-line digital display.

were several issues we wanted to address in the video processing," Murdock reveals. "One of the more difficult challenges was producing flicker-free video. We also wanted to address the picture artifacting normally associ-



ated with a frame store, so we employ a methodology known as interpolation to smooth the transitions between two video fields. Additionally, we drive the video camera at the same frame-rate as the film camera, which is slightly unusual. If the camera is running at 40 fps, we actually drive the video camera at 40. Even at a high frame-rate, we capture a full field, whereas most other video taps halve the film camera's speed. So if you're running at 40 frames, they halve that speed and run the video camera at 20 frames. Again, that contributes to a jerky, strobing motion."

He expands, "Since video assist is becoming increasingly important — maybe even for checking critical focus or doing on-set compositing, as well as playback — we also provide an RGB-component output. On the side of the video tap, there is a 9-pin D-connector that goes out to five BNCs. By using a component output, you get a very clean video signal and can pull on-set mattes without a lot of color fringing. With the first-image clear-format screen *and* component output, the video picture is substantially better than composite with *or* without the ground glass."

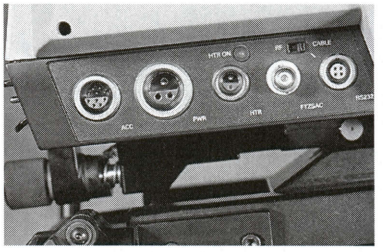
The Millennium's video tap also features a built-in frame-line generator, controls for color, character sizing and placement (used with the internal camera-status output or relayed Panatape information), as well as mask-size and gain controls. Furthermore, the tap can electornically unsqueeze an anamorphic image and incorporates a freeze/compare function that overlays a live video picture with a stored image. The Millennium's video tap is also available in both PAL and NTSC standards.

Electronics

Brian Dang, the director of Panavision's electronics R&D, oversaw the design of the Millennium's electronics architecture. Still based on a 24-volt power supply, the system utilizes multiple microprocessors and microcontrollers to enable its "smart" backwards-compatibility.

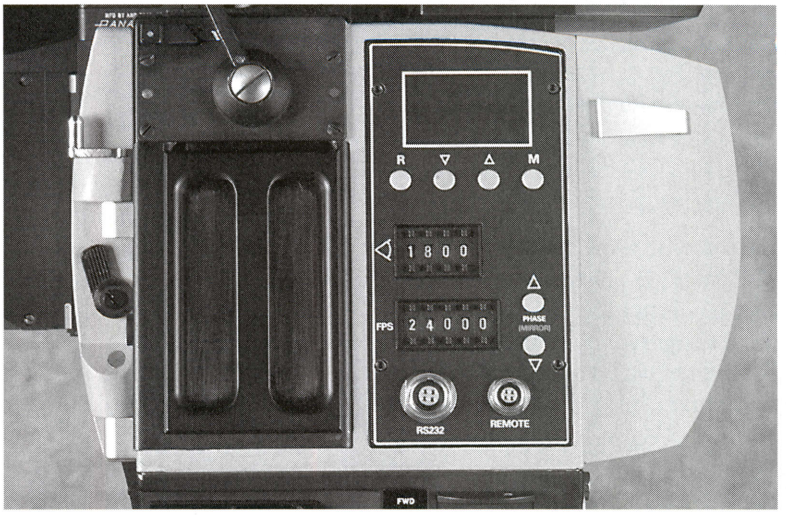
"We wanted the electronics to be as integrated and robust as possible," says Murdock, "so we chose components that were proven in other industries — devices that have had an excellent track record under fairly adverse conditions. For instance, the microprocessor we are using came from the automotive industry. We also use a DSP [digital signal processing] chip for the motor-control work, so there are very sophisticated electronics in the camera. In fact, we have a couple of patents pending for the waveform scheme that we use to drive the motors, as well as several others pending for the video/viewfinder optics. Brian Dang came up with a waveform concept which he calls a 'butt wave' — as opposed to a sine or square wave — that applies voltage to the motor in a more effecient and smooth fashion.

"Electronically, the inside of the camera is very clean because we use surface-mount technology and there's a



lot of exact-length, flex-line cabling between circuit boards. Inside, there are only two main boards and some very small motor-driver amplifiers. Each display on the camera also has its own microcontroller and handles its own work. If one of the displays were to quit working, you would still have two other displays that would be operating independently. As long as the main CPU is up and we have serial communication inside the camera, the smaller CPUs can go down individually and not impact the basic function of the camera."

The Millennium's electronics architecture is divided into two distinct sections. For all of the camera's internal communication and control between its various components and sub-controllers, the system utilizes a "Local Area Network" (LAN) bus, a term borrowed from the computer industry. For any peripheral devices attached to the



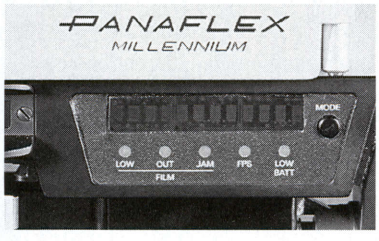
camera, such as a FTZSAC, Smart Shutter, or the new Digital Link controller, the system utilizes its Wide Area Network, which monitors for the presence of these various accessory units.

This complex networking protocol requires the camera to monitor and regulate a number of variables. Murdock explains, "It does this because we had to build in the backwards-compatibility. The unit has to know whether it has a Millennium, Panaflex, or Panastar magazine on it, whether or not it has a new or old FTZSAC or a Smart Shutter plugged in. Therefore, when you first apply power to the camera and then roll, it will run at 4 fps for about two seconds. During that time, the camera is looking at all of the things it has attached to it. Once it finds all of these components, it will immediately roll at any given set speed from then on."

The Millennium features many of the same connectors familiar to Panaflex users — such as the 24-volt power-in (which accepts between 19 to 28 volts while still maintaining speed), and accessory and heater ports — as well as a few notable additions. The new system has two RS232 connections utilized for advanced digital electronics communications. There are three Lemo connectors on the front faceplate of the camera, which connect the focus, T-stop, and zoom-control motors to the camera's new, internalized FTZSAC. There is also a BNC connector on the main motor-side connector panel for interfacing with older FTZSACs and Smart Shutters. The new wireless FTZSAC receiver utilizes a separate serial connector located on the rear of the video-tap housing.

Displays

"There are three digital displays on the camera: a front, butterfly, double-sided display; one on the bottom corner

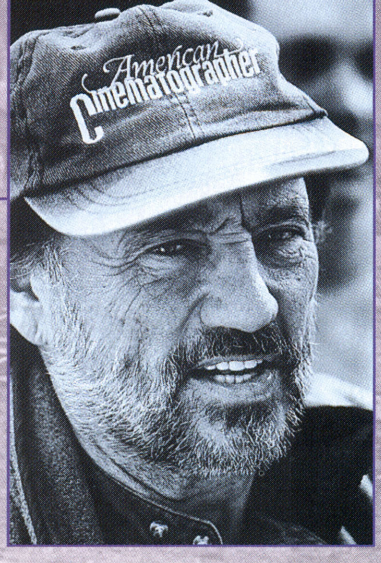


"In 1956 I escaped from Soviet-controlled Hungary. In New York I had a very difficult start. I didn't speak English well enough to get a good job. I couldn't get into the movie industry, where most positions were filled by union members with seniority. As an accomplished cinematographer from Hungary who had graduated from the famous Hungarian Film School, I was totally lost in the big city with no hope to follow my career — until I found this fantastic magazine about the making of big professional movies. Despite my scant knowledge of English, I started to read it. That was the beginning of a new career in the U.S. This magazine helped me to learn the language faster, and also kept me up with the latest technology in filmmaking. I read *American Cinematographer* for years in the hope that someday I would be able to use all of that information. To tell you a secret: I still read it, and still learn a lot from it."

—Vilmos Zsigmond, ASC

Zsigmond's credits include *Playing By Heart, McCabe and Mrs. Miller, Deliverance, The Sugarland Express, The Long Goodbye, The Last Waltz, The Rose, The Witches of Eastwick, Maverick* and *The Ghost and the Darkness*. He earned an Academy Award for Best Cinematography in 1977 for his work on the landmark film *Close Encounters of the Third Kind*. Zsigmond also garnered Oscar nominations in 1978 for *The Deer Hunter*, for which he also received the BAFTA Award, and in 1984 for *The River*. In 1992, Zsigmond earned an Emmy and an ASC Award for his visualization of the miniseries *Stalin*.

He is the 1998 recipient of the American Society of Cinematographers' Lifetime Achievement Award, and an avid reader of *American Cinematographer* magazine.



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of the operator's side; and another on the back, rear panel," Murdock notes. "Each has two lines, and can show different pieces of information. The top line will always show the camera's speed indication. By pushing a little 'M' [mode] button, each can show the shutter angle, footage, battery voltage, or the 'display brightness' control on the second line. You can also set one display to show shutter angle, another to show footage and another to show battery voltage. These are the only instances where we incorporated any kind of scrolling menu functions on the camera."



Top: The LAC programs electronically-controlled, shutter-compensated speed ramps. Below: Utilizing lubrication-impregnated materials and significantly lightened components, the movement is essentially the same as that of the Platinum, although there are some notable differences. Opposite: The Millennium's new mags retain the same profile and loading configurations as the previous Panaflex designs, but offer a quieter, more precise operation.

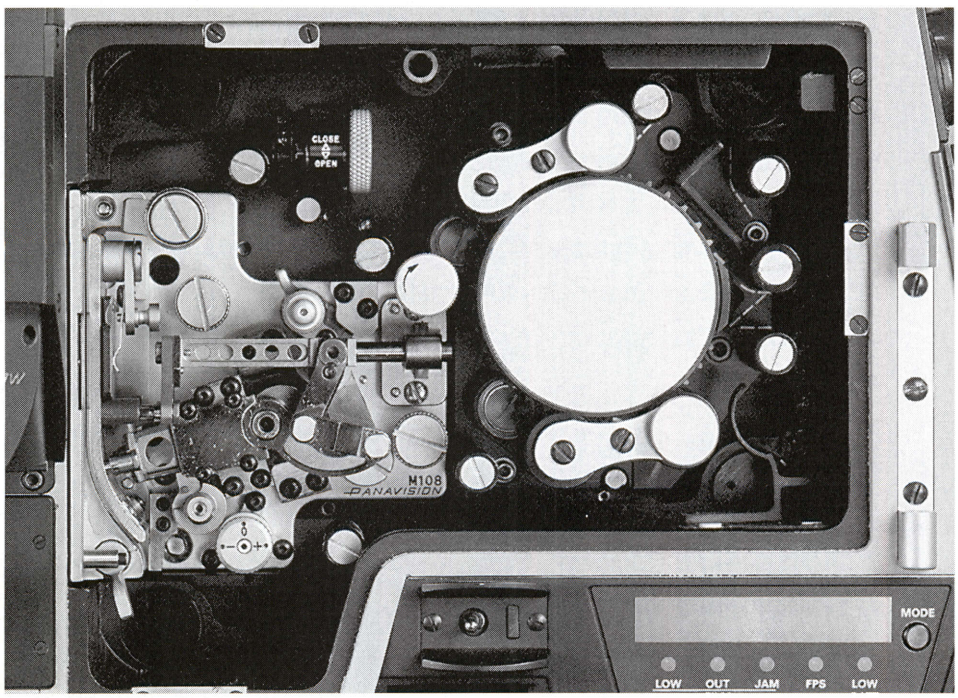
In addition to the display of internal status information, the back panel features controls for the camera's speed and fully electronic shutter, phasing buttons, a connection for the Local Area Controller (a handheld speed, shutter and ramping remote control), and an RS232 port, which is used to status the camera by computer and upload new operating profiles and display information. "We use mechanical thumb-wheel switches for the speed and shutter controls so that you don't have to power-on the camera to see what the settings are," Murdock says. "The switches have a cover over them so you can't accidentally hit them and change a setting during a shot."

Local Area Controller

A remote unit that duplicates all of the features of the Millennium's rear panel and display, the LAC is also the camera's speed/shutter ramping controller. "The LAC comes standard in the kit and plugs directly into a port on the back panel," Murdock submits. "The LAC works on the internal LAN bus, which is why it can't be used wireless and can't have a cable any longer than 8 or 10 feet. When you plug the LAC in, it takes control of the back panel. In fact, it will black out the rear panel display. Conversely, the second you unplug the controller, the camera will revert to the switch settings on the rear panel."

Programming a ramped-speed, shutter-compensated shot can be achieved with ease on the LAC. Explains Murdock, "For a typical speed ramp, you'd put the controller into ramp mode and then set the minimum and maximum speeds and shutter angles, as well as the time, which can be up to 99 seconds. If you wanted to do a two-stop ramp — from 6 fps to 24 fps — you would then enter a 45- to 180-degree shutter-angle change and then enter the time you want the ramp to take. If you try to set a time interval that is shorter than what the camera can do, the camera will limit itself. However, the shutter takes slightly less than two seconds to execute a 3 fps to 50 fps ramp with an 11.2-degree to 180-degree shutter compensation.

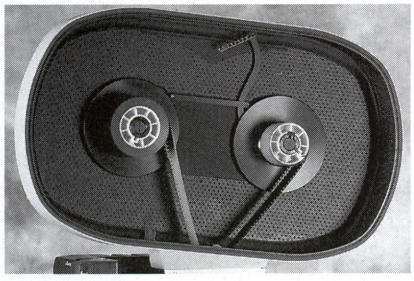
"The LAC also has some built-in smarts. A two-stop ramp is pretty easy to figure out, but if you wanted to do a ramp that was a little non-standard — say from 9 fps to 24 fps, ending up with a 180-degree shutter — you would first have to calculate the proper shutter angle for 9 fps. We know it's not 45 degrees, because that's two stops, which would be 6 fps. However, if you input a zero on the LAC for the beginning minimum shutter angle, it will figure out what the proper shutter angle for 9 fps should be — which is 67.5 degrees. If you know three of the four settings, the LAC will calculate the missing piece."



Body, Magazines and Mechanics

The design of the Millennium's body and magazines was handled by Panavision's senior vice president of R&D, Al Mayer, Sr., who worked in conjunction with the ergonomics experts at RKS. Advanced materials were utilized to reduce weight and improve sound-damping performance — including magnesium alloy (which is approximately ⅓ lighter than aluminum) for the body and 1,000' magazine, and carbon fiber for the 500' magazine. "We used magnesium alloy for most of the body," Murdock confirms. "Once the bodies are

machined, the magnesium components go out for a coating process, which not only protects against weather and corrosion, but also provides a conductive surface for ground-wiring and a very effective EMI [electro-magnetic interference] shield. In fact, the camera has specific surfaces that aren't painted, so when you mate them together, the two magnesium surfaces with this conductive coating become a ground path, or shield against EMI."



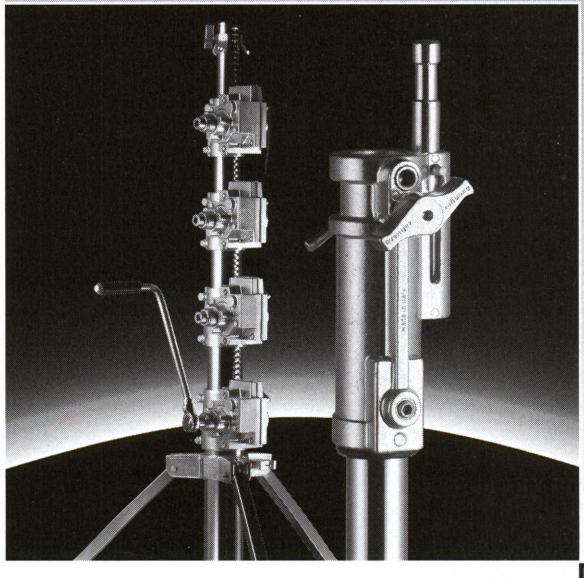
The Millennium's movement design was supervised by vice president of engineering Al Saiki and is manufactured from special lubrication-impregnated aluminum. It retains the same tried-and-tested Panavision movement characteristics, but can now achieve 50 fps operation. "The inside of the Millennium is essentially the same as a Platinum," relates Murdock, "but we took a lot of the weight out of it. The gate, aperture plate and pressure pad all come out the same way, and there is still a single sprocket, though the Millennium's is slightly larger than the Platinum's; we wanted to better accommodate 3-perf and 4-perf usage [by having the total number of sprocket teeth divisible by both three and four.] We built a computer model of the movement to look at the links and stresses, and ended up lightening all of the pull-down arms, registration pins, and so forth. Also, by changing some materials and using some advanced coatings to reduce the coefficient of friction, we were able to reduce the lubrication requirements to every couple of weeks, or every 100,000' of film."

Through the use of these new materials, and the lighting of the movement's mass, the engineers were able to significantly reduce the camera's silent

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operation. "Of course, the camera's overall sound levels were very important," relates Murdock. "In the Millennium, we now utilize bearings developed for other industries which depend on high-speed, extremely stable devices. We also eliminated as many gears [throughout the camera] as possible and replaced them with other drive mechanisms.

"Since we're a rental house," he continues, "we're also constantly converting cameras back and forth from Super 35, 3-perf, 4-perf, and so on. We designed the Millennium so that the conversion for Super 35, for example, is now only a 10-minute procedure. You simply pull the movement out, put in a Super 35 spacer, remount the movement, recollimate the camera, change the ground glass and you're done. Optically, the camera lives in Super 35 centering, so we simply move the film to accommodate the optics, instead of moving the optics to accommodate the film."

Motors

"We use brushless motors in both the camera and the magazines," Murdock details. "They're more efficient, quieter and require less maintenance because there are no brushes to wear out. With the addition of sealed bearings, we essentially have a maintenance-free motor assembly. Also, there are dual motors in the [1,000'] magazine, and there is constant communication between the camera and the magazine. The magazine feeds the film into the camera slightly ahead of when the camera really needs it, so the sprocket doesn't have to work nearly as hard. On a Platinum, the feed side is actually a brake, but on the Millennium, the only thing the sprocket does is help *guide* the film, instead of pulling or pushing it. The camera sends the magazine information about speed, but its motors are controlled by two more CPUs located behind the footage counter on the magazine. That way, the camera knows how much film is in the magazine — because it can calculate the RPMs — while it looks at and adjusts the torque on both of the magazine motors to maintain constant tension."

Shutter

The Millennium's electronically-controlled shutter has a range of 11.2 to 180 degrees, covering four stops. Not coincidentally, this matches the camera's four-stop speed range of 3 to 50 fps. "Most Panaflexes have a 200-degree shutter," admits Murdock, "but we were getting a lot of requests for custom narrow shutters [for use on other cameras], so we decided this should be a standard feature."

The shutter can also be manually overridden. Murdock explains, "If you wanted to set the angle yourself, you could enter four zeros on the rear control panel and then manually dial-in a shutter angle. We dynamically measure the shutter [for readout on the digital displays], so that while one is running the camera, you can dial a knurled knob — located inside the film compartment — to manually open and close the shutter. You can also pull out the gate and look at the engraved markings on the back of the shutter, which include the most standard shutter openings, such as 180, 172.8, 144, 90 and 45 degrees."

Technical Specifications

Lens Mount:	**Panavision positive-lock, pin-oriented mount**
Flange Focal Distance:	**2.248"**
Reflex Mirror:	**150-degree (full-size/speed)**
Shutter:	**11.2 to 180-degree electronically-controlled true focal-plane**
Movement:	**Dual, full-fitting registration pins/double pulldown claw**
Speed Range:	**3-50 fps fwd/rvs crystal (in 1/1000 increments)**
Motor:	**24-volt brushless motor**
Power:	**24v DC system (iris bracket includes 12vDC out)**
dB rating:	**18dB with film and lens at 3'**

Weights

Body (w/out focus tube/video):	**15.5 lbs.**
Focus Tube:	**3.9 lbs.**
Ext Eyepiece:	**4.7 lbs.**
Short Eyepiece:	**1.1 lbs.**
Video Tap:	**1.7 lbs.**
Butterfly Display:	**0.5 lbs.**
1000' Magazine:	**12 lbs.**
400' Magazine:	**6 lbs.**
Handheld Assembly:	**4.1 lbs.**

Basic Camera (Body, focus tube, video tap and short eyepiece) Without mag: 22.2 lbs.

Studio Mode (Body, focus tube, video tap, ext. eyepiece, butterfly display and iris rod bracket) Without mag: 27.4 lbs. With 1000' Mag, no film: 39.4 lbs.

Handheld (Body, focus tube, video tap and short eyepeice) Without mag: 22.2 lbs. With 400' mag, no film: 28.2 lbs.

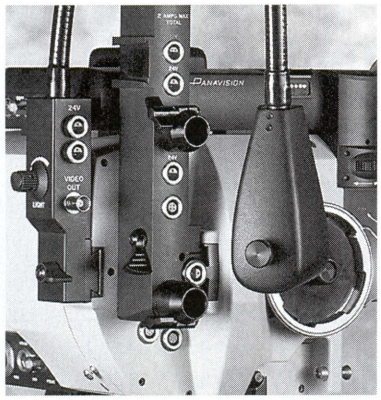
Steadicam (Body, video tap and adapter plate) Without mag: 17.9 lbs. With 400' mag, no film: 23.9 lbs.

Low Mode: with mag, no film: 23.7 lbs.

A Complete System

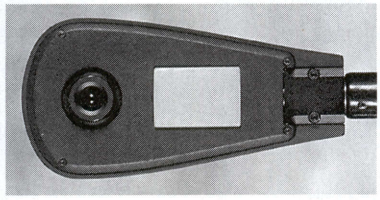
Panavision has made a firm commitment to presenting the Millennium as an all-inclusive camera system. "We wanted the camera to be fully featured and packaged," relates Murdock, "so all of the video [features] and accessories are included in the price. Additionally, we wanted to include an on-board monitor that would allow the first AC, operator, or director to be able to see the video picture, so we chose to work with Transvideo in creating a 5" [diagonal] LCD that is very bright and robust. It has power in/out and video in/out, and you can mount it upside-down if you want to. The on-board monitor also comes with a support that attaches it to the top of the iris rod bracket, as well as a sunshade."

The Millennium also comes equipped with an integrated witness camera and wit-cam monitor. Murdock elaborates, "We found this little black-and-white camera about the size of a postage stamp, and thought, 'This is too



The integrated lens light/witness-camera allows for focus, T-stop and zoom marks to be seen on the provided witness monitor.

cute not to use!' At some point, someone suggested building it into the lens light, so you'll always have a witness camera. We wanted to be able to accommodate for remote or difficult focus locations, so the witness camera monitor mounts to the on-board monitor's bracket and can display zoom, focus or T-stops marks. The AC will now be able to see those marks while he or she is away from the camera. This entire system comes standard in the Millennium's kit."



The lens light utilizes a postage-sized black-and-white camera and provides a BNC to the on-board witness monitor.

Given that new digital products and accessories will certainly be introduced into Panavision's inventory, the Millennium design team has built additional communication links into the camera's software and hardware. Together with companion film camera systems and new optical products — as well as some advanced digital imaging products — now being designed and developed, Panavision is poised to enter the new millennium with a greatly expanded range of products and services.

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The Fries model 435 is a new general purpose MOS production 35mm camera. With its optical printer compatible register pins, steadiness and 150 FPS speed. The 435 is ideally suited for special effects, commercials or any photography where a quality steady image is desired.

The 435 is a spinning mirror reflex camera with a 170 degree blanking shutter. The internal 30VDC motor runs the camera from 2 to 150 FPS forward and 2 to 50 FPS reverse, in one frame increments all crystal. The camera is equipped with take-up and supply torque motors.

There are both 1000 ft. and 400 ft. displacement type magazines. A new feature is the light valve which allows the operator to direct all the light to the viewing system, or to the video assist, or combo which splits the light between both viewing and video assist.

35 mm, Reflex Camera

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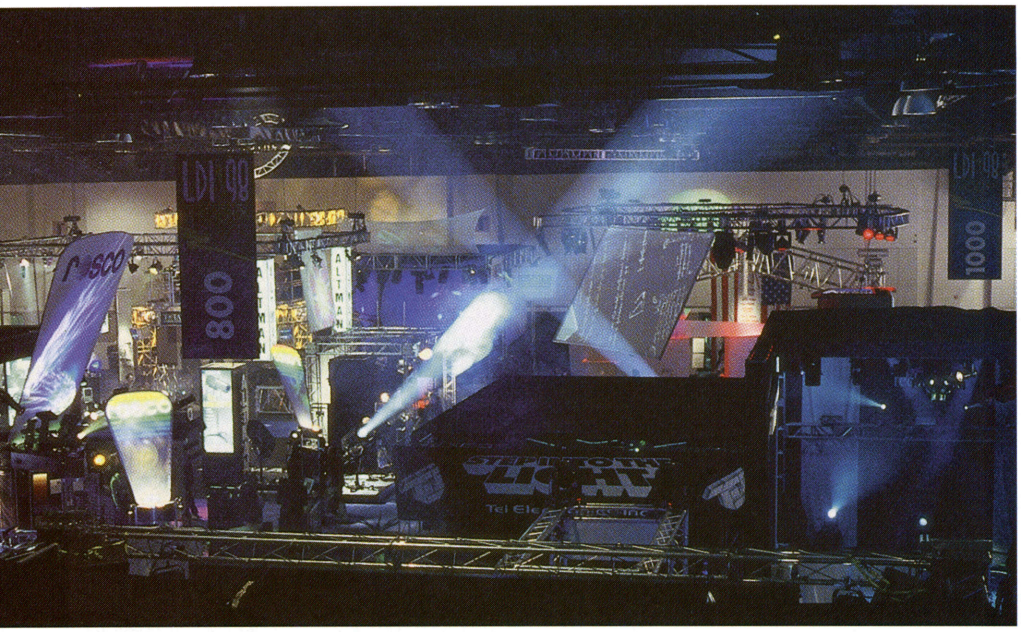
Ground Glass 1.85 & T.V. on Academy Center line shown

Film Clip: The finder has a set of register pins that will hold a film clip the same as the Fries camera.
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Illuminating Show and Discussions

by Jay Holben

Last November, downtown Phoenix, Arizona, played host to Lighting Dimensions International '98, a trade show for lighting professionals. The convention floor offered hundreds of animated intelligent lights, fiber-optic systems, and fixtures for all architectural, theatrical and motion-picture applications.

Prior to the three-day convention, LDI '98 was host to a week-long collection of intensive workshop meetings on a multitude of subjects, from AutoCAD design to the basics of power distribution. Dubbed "LDInstitute," these events were great opportunities to spend time with select experts in each field.

Here are some highlights of both the workshops and equipment that this reporter found to be of particular interest.

Above: A view of the show floor at LDI '98, held at the Civic Convention Center located in downtown Phoenix, Arizona. Right: Rosco's Eric Tishman demonstrates a glycol-based fog cannon manufactured to be completely self-sufficient for permanent installations in theme-park environments.

UVa Use

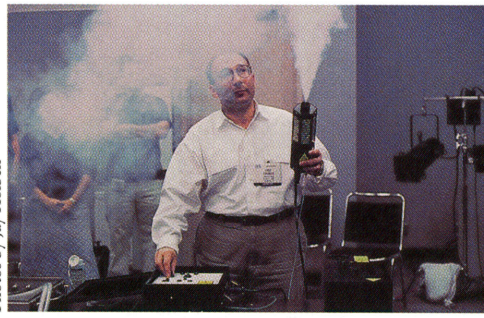
"The Black Magic of Ultraviolet," a day-long session held on the stage of Phoenix's Civic Center Ballroom, was led by moderator Jeffrey Hillinger from @utomated Entertainment. The workshop focused on the ins and outs of working with different ultraviolet emitters. One of the principal sources demonstrated was Hillinger's vacuum-thin, film-coated dichroic filters. When used in connection with high ultraviolet-emitting sources, such as HMI and Xenon lamps, these filters transmit harmless, long-wavelength UV radiation from 340 to 380 nanometers (with a peak at 365), while blocking all short-wave radiation below 315 nanometers. With dichroic filters, nearly 100 percent of the UVa necessary for fluorescent pigments to retro-reflect is transmitted, as opposed to less than 61 percent with a standard absorbing filter.

Utilizing this process, @utomated Entertainment offers rentals on extremely efficient "black light" fixtures ranging from 200W to 18K. "Most commonly," explains Rolf Bender, a European Industrial Designer who has spent the last 25 years working with UVa-reactive plastics, "fluorescence refers to the property of emitting visible light during radiation by ultraviolet. The visible light given off can be of almost any color, depending on the substance which is fluorescing, and, to a lesser extent, on the wavelength of the ultraviolet light which causes the fluorescence. In order for a substance to fluoresce under ultraviolet light, some impurity must be present. The amount of impurity is also critical; if there is too much, the fluorescence will either be diminished or completely eliminated."

Many different substrates and pigments have been found to have fluorescent properties in a multitude of colors. For best results, these materials are illuminated by a peak of 365 nanometers — the "magic" frequency.

Throughout the seminar, Hillinger and Mike Friedman of Nocturn Ultraviolet Visual Effects demonstrated a multitude of materials: plastic, fabric and even "kitchen supplies" such as laundry detergent which, because of the added fabric-brightening chemicals, have fluorescent properties.

Of the materials presented, by far the most visually dynamic were the 'invisible' black-light paints. These



Photos by Jay Holben

pigments, when illuminated under ultraviolet light, display entirely different colors than they do under normal, full-spectrum light. Utilizing these pigments, it is possible to turn a painted backdrop from a daylight scene to a full nighttime scene simply by removing the normal lighting and illuminating the drop with ultraviolet light.

When photographing black-light effects, Hilliger explains, "you are not working with reflected light, but rather retro-reflected light that comes from exciting fluorescent elements in the material." When you hit a fluorescent material with UV light, the elements are excited to a retro-reflective state and will emit visible light and color. The ratio of incident ultraviolet light to retro-reflected light from a fluorescent source will

depend on the materials used and the colors within them.

@utomated Entertainment, (800) 880-6567, website: http://home.earthlink.net/~automated_hd. Nocturn Ultraviolet Visual Effects, (818) 255-0620, website: www.nocturnuv.com. Rolf Bender (49) 0-228-971-1970, website: www.depro-bender.de

Improving Luminance Measurement

Karl G. Ruling, technical standards manager of the Entertainment Services and Technology Association, was joined by Larry Lieberman, the chairperson for ESTA's Photometrics Work Group, and seven-time Emmy Award-winning cinematographer Bill Klages to demonstrate a new photometrics "nutrition chart" that ESTA is proposing as a standard for the industry. The Photometrics Work Group, the fourth largest in terms of voting membership in ESTA's Technical Standards Program, is working to develop "E1.9" Entertainment Lighting Luminaries — Presentation of Photometric Performance Data. The standard defines the minimum data to be presented on documents describing the photometric performance of a fixture.

One of the problems in current photometric-data presentation, as explained by Ruling, is that the data is collected from an imaginary spherical surface; readings are taken in three-dimensional space in a circular pattern. Realistically, when a technician reviews the "real-world" performance of a fixture, "they shine it at a wall," comments Ruling. "Comparing the readings taken off a flat surface to the photometric data recorded from an imaginary sphere will result in confusing and frustrating findings."

With the new ESTA system, side-by-side comparisons can be made on a level playing field. The standard begins by supplementing the common "V" chart, which shows footcandle levels over various distances from the luminaire, with a graphic representation of the source projected on a flat surface. Imposing this representation over a fixed grid, a series of isolux lines for various luminance

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values can be plotted on a common graph, and the output performance of a fixed fixture can be quickly evaluated.

In addition, the standard lists a "nutritional chart" of information, including total lumen output, cutoff angle, tenth-peak angle, half-peak angle (these terms were adopted over the former "beam angle" and "field angle," respectively, which were more easily misinterpreted), efficiency, and lumens per watt. The chart will also list the testing lab presenting the material, as well as a list of available globes for the fixture, with the tested performance data for each globe and a designation as to which one was used for the isolux graphic. Formulas will be provided to convert practically useless candela information (commonly provided with "throw multipliers" from the isolux graphic) into workable footcandle readings. The sample data sheet is available for public evaluation and comment via the ESTA website.

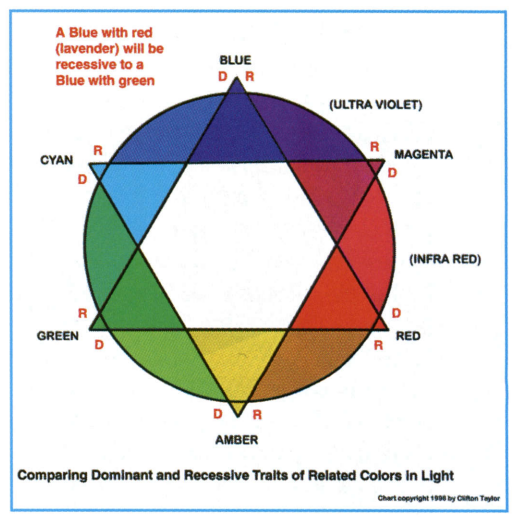
ESTA, 212-244-1505, website: www.esta.org.

Color Palette Design

An extraordinary seminar was held on color theory in the Herberger Theater Stage West, across the street from the convention center. "Designing a Color Palette" was presented by theatrical lighting designers Beverly Simmons, Stan Pressner and Clifton Taylor, with help from the Herberger's technical director, Mark Mettes.

Taylor's presentations stole the show, as he demonstrated his "war of the roses" scenario. Using a white mannequin as a subject, Taylor placed color scrollers on two ellipsoidal spotlights on either side of the stage. Beginning with white (tungsten) light in each instrument, Taylor, added increasingly saturated magenta filters in front of each fixture. He began with the stage left fixture and a lightly saturated magenta, demonstrating the difference between clean tungsten on one side of the mannequin and the light magenta on the other. Then, in the clean fixture, he inserted a deeper-saturated magenta while keeping the stage left fixture the same. The audience blinked as they witnessed their eyes adjusting to read a slight magenta from stage right and "white" light coming from the left. Even though the slightly less saturated magenta filter was still in the left instrument, the eye adjusted to read the less saturated color as "white." Taylor continued alternating deeper and deeper saturations of magenta; with the use of each deeper filter, the previous strength read to the eye as "white." This was an extraordinary real-world example of the eye's adaptability, combined with the brain's color memory to interpret one color as another.

Taylor further shared the theory of dominant and recessive colors, noting that the eye will be attracted first to a dominant color over a recessive color, and that two opposing colors on the same subject will tend to appear primarily as the dominant color. Simmons highlighted her presentation by showing how, in a color saturated environment, the eye begins to see secondaries that aren't necessarily there. A very warm set



Clifton Taylor's Color Diagram, which illustrates dominant and recessive colors according to the theory he presented at an LDI workshop. Adjacent colors are labeled with either a "D" or an "R" signifying dominance or recessive traits. A cyan would be recessive to a blue, hence the two colors on the same subject will take on the traits of the blue over the cyan. Magenta and red are equally dominant compared to one another, just as magenta and blue are equally recessive.

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with warm lighting predominately in the red and yellow range will create a greenish tint in shadows and less illuminated areas, even though no green light is present. A "white" light introduced into this environment will also assume a greenish hue.

Clifton Taylor, website: www.designcurve.com.

Adding Atmosphere

Karl Ruling also presented the "Nebulous Effects" workshop, focusing on modern atmospheric effects, primarily glycol fogs used in "fog-juice" machines from Rosco and Great American Market, among others. A considerable amount of attention has been placed in recent years on the health effects of prolonged exposure to these materials. Gregory Raymond, of The Cohen Group, presented an extensive study compiled in 1993 by the National Institute for Occupational Safety and Health (NIOSH) on the Broadway productions *Les Miserables, Miss Saigon* and *Phantom of the Opera*, all of which heavily used glycol fogs for onstage effects.

NIOSH took air samples during rehearsals and performances for analysis. The studies concluded that "prolonged and repeated inhalation of triethylene glycol and propylene glycol concentrations well above those present in high-density fog theatrical productions has been repeatedly demonstrated to not pose a health hazard to human subjects. However, even though propylene glycol is widely used in topically applied cosmetics and pharmaceuticals, it is known to produce allergic skin reactions and/or primary irritation in unusually sensitive individuals."

The workshop also focused on the differences between smoke, which is composed of solid particles suspended in the air (usually as a result of burning or a combustion process), and fog, which is composed of liquid droplets suspended in the air and produced by a variety of processes — just the same as naturally occurring fog.

Most fog machines create a substance made up of a water and glycol combination. Cryogenic fogs, such as







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those made with liquid nitrogen and solid carbon dioxide (dry ice), are made up of water droplets.

One of the problems in using cryogenic fogs is that both nitrogen and carbon dioxide, when returned to the gaseous state, deplete the oxygen supply in the air, creating a potentially dangerous situation. To combat this effect, James Foley and his partner at the Los Angeles-based company UCISCO created Liquid Synthetic Air, a combination of liquid oxygen and liquid nitrogen which is 100 percent breathable. This breakthrough won the recognition of the AMPAS last year, and UCISCO was presented with an Academy Award for Technical Achievement.

Zooming Luminaires

Of the many lighting products displayed on the convention showroom floor, two extraordinary highlights were ETC's Source Four Zoom and Cinemills' Rainy Day Par. The idea of a "zoom" spotlight has always been appealing: the flexibility of one fixture with multiple field angle choices. However, light loss and mechanical complication were a high price to pay for convenience.

The Source Four Zoom features crisp imaging, unequaled light output (it is rated for ETC's new high-output HPL 750-watt globe, with the same design as the HPL 575-watt, but is 27 percent brighter), and the company's signature rotating barrel and cool beam.



ETC's new Source Four Zoom fixture.

Further, ETC makes focusing fast and easy. Their engineers watched lighting professionals at work, and responded to professionals' needs. The Source Four Zoom features a revolutionary one-handed focusing mechanism utilizing just a single knob to change the beam angle. The graduated-scale markings on the fixture make it possible to pre-focus the instrument, and — by using the locking lever on the focus mechanism — fix the focus solidly in place. The ETC Source Four Zooms come in two angles: 15 to 30 degrees and 25 to 50 degrees.

Also during the convention, Cinemills Corporation unveiled their new 3-Way 700W/575W/400W, all-weather HMI Par. Complete with a watertight housing and a custom aluminum rain hat, this aerodynamically-designed light head features a specially created reflector that provides extra punch when needed, but the unit can reduce that punch by half for more intimate use.

The maximum output of the CMC 3-Way fixture will provide more spot output than the standard 1200W SE. Its all-new electronic flicker-free world ballast is whisper-quiet and boasts a durable, lightweight construction. The modular assembly features dimmer capabilities in three stages, from 700W to 575W to 400W. This world ballast runs on auto input voltage of 90v to 130v and 180v to 260v AC, with Power Factor Compensation at both 50Hz and 60Hz. The head weighs 12 pounds, and the ballast a mere 5 pounds.

ETC, (608) 831-4116, website: www.etcconnect.com. Cinemills, (800) 325-7674, website: www.cinemills.com.

Black Foil Tape

Pro-Tapes & Specialties announces Pro-Matte Wrap, a matte-black, opaque aluminum foil. Its pressure-sensitive adhesive backing was specially formulated using solvent-based rather than waterborne materials to provide superior tack. The special formulation permits the ultra-matte black foil to be easily picked up and repositioned without leaving any messy, sticky residue. Because this substance won't burn or melt, it's suitable for a wide range of applications: lighting decorators/engineers can use it

to create shadows, form barn doors, adapt gobos, mask light spill and much more. Pro-Matte Wrap aluminum foil can also be ordered without an adhesive backing. The adhesive-backed version is available in 2', 3', 4', 6', and 12' wide by 25' length roles. The non-adhesive version is available in 12" and 24" wide rolls, in both 25' and 50' lengths. The non-adhesive version is boxed in an easy-to-use dispenser, similar to those utilized for kitchen-type aluminum foil. For easy identification, the boxes are conveniently printed on all four sides and on both ends.

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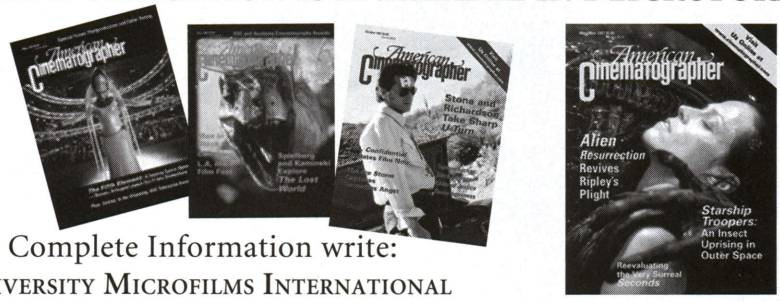
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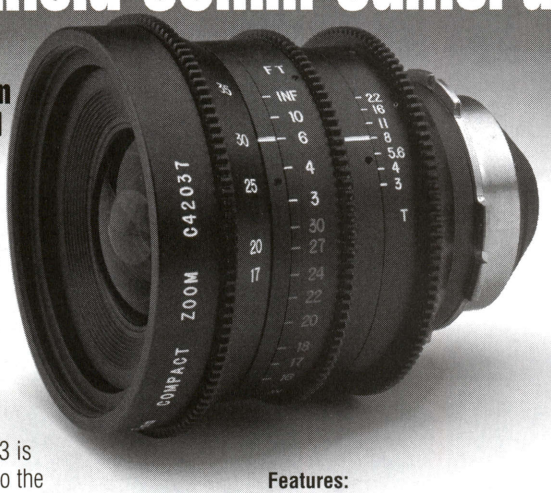
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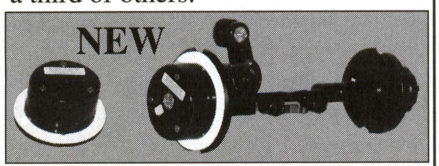
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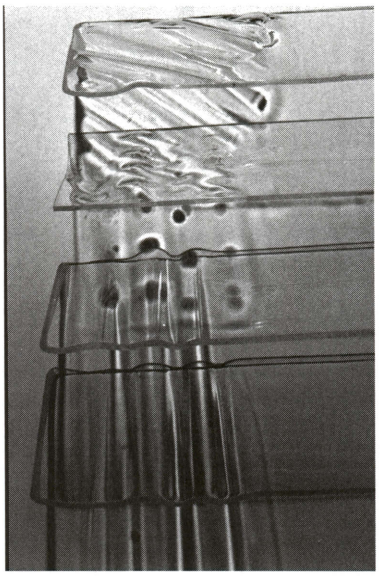
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Points East

To the Manor Born

by Eric Rudolph

Prolific Boston-based playwright/essayist/screenwriter David Mamet has been quite busy behind the camera of late. Following the four-year gap between *Oleanna* and last year's indie hit *The Spanish Prisoner* (see *AC* March '98), Mamet has once again settled into the director's chair.

The auteur's first period piece is an adaptation of the 1946 Terence Rattigan play *The Winslow Boy*. Set in 1912, the picture relates the tale of Ronnie Winslow (Guy Edwards), a 14-year-old London military school cadet expelled due to suspicions that he has stolen a postal money order worth five English pounds.

When the boy swears his innocence to his upper-middle-class, bank-manager father, the elder Winslow (Nigel Hawthorne) presses forward with a damn-the-torpedoes attempt to exonerate the boy through a trial. This proves to be quite an undertaking, since the boy's military school enrollment means that the family will be suing the British Crown itself — an act not allowed without special permission from the King. Nevertheless, the proud parent pursues this tortuous and materially destructive path, even though his son's only punishment is dismissal, and the boy could easily be placed in another school of similar repute.

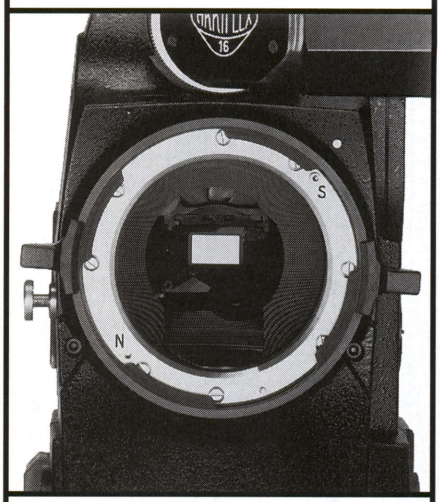
Although the play had been brought to the screen once before (in a 1948 version directed by Anthony Asquith and shot by the late Freddie Young, BSC), Mamet chose to adapt his screenplay from the original theater script. Thus, true to Mamet's usual habits, *The Winslow Boy* is very much a filmed play, with the majority of its action taking place in the Winslow home.

To photograph this tense, poignant family drama, Mamet enlisted Benoît Delhomme, AFC, a Paris-based director of photography whose credits include *The Scent of Green Papaya, Cyclo* (*AC* Sept. '96), *Artemesia* and Mike Figgis's latest film, *The Loss of Sexual Innocence*. The visual style of *The Winslow Boy* was determined during the initial meeting between director and cinematographer. Delhomme submits, "I never come empty-handed to my first face-to-face meeting with the director, bringing only my reputation. Right before David and I met, I bought a book of the artwork of John Singer Sargent. What I particularly had in mind [for *The Winslow Boy*] was *The Daughters of Edward D. Boit*, Sargent's painting of four young girls in a drawing room."

This canvas depicts four girls — ranging in age from about 2 to 14, and wearing identical white pinafores — standing in a variety of positions in a shadowy corner of their Paris apartment, illuminated by soft window light. According to information gleaned from the website for Boston's Museum of Fine Arts, where the painting hangs, the girls' unusual posing suggests "both the private world they occupy within the large household, and the loneliness that can be a part of childhood."

Delhomme believed that this composition could serve as a visual blueprint for *The Winslow Boy* because it evoked provocative suggestions of stories untold, just as Mamet's screenplay emphasized the emotional chasm between the Winslow family members. "The Winslows are very proper — they cannot be demonstrative about their love for each other," the cameraman observes. "They are nearly

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frozen in place, like people just standing in a room who can't move."

The Frenchman tried to increase this sense of "rigidity and frigidity" by never allowing his camera to get too close to the characters: "I wanted it to be as restrained as the characters."

He also kept the lighting at a distance from the actors to allow them "to forget about the lighting. Eighty percent of the action takes place in the drawing room and study of the house. There were five large windows between the two rooms of the Edwardian London location, so I decided that the windows should work as giant softboxes."

Delhomme tented the windows, placed a 6K Cinepar HMI on a turtle under the windowsill, and aimed his lighting units at the canopy's white interior. The cameraman added direction to his luminance by manipulating it with a one-meter poly board, and increased dispersal of the bounced light with a strong 216 diffusion material that covered the window glass. "I used 250 or 251 if I wanted the light to be a little harder. I sometimes used a few other small instruments inside [to filter the daylight interior ambiance], but normally I tried to limit it to bounce boards, and I even tried to keep those to a minimum."

The ambiance streaming in from outside also served as a metaphor for the family's insulation from the outside world, which stems from their elevated social status and moderate wealth. "Life is going on outside, but they've forgotten about it, especially once the crisis starts," Delhomme muses. "The light from the windows is a reminder that the world is out there, and it helps to point out how oblivious they are to events beyond their immediate concerns."

Hewing to the idea that the Winslows are repressed by their propriety, the medium shots of the often stock-still actors are essentially portraits. This still-life effect is further emphasized by the day interior lighting. Notes Delhomme, "All of the great painters placed their subjects near windows; it is great light for faces, especially north light, which is strong but not hard. I created north light in every room, completely destroying the actual orientation of the windows."

When the family begins their campaign to bring the case to trial, a journalist is invited into the Winslow home, where the late afternoon sunlight is suddenly supplemented by electrical lamps. The cinematographer explains, "At this point, the campaign has just started and the family is still rich, so I felt that they would want to demonstrate their 'power' by turning on every electric light in the house." (In 1912, extensive electrical illumination of a home was still considered quite a luxury.)

For night interiors, Delhomme placed 100-watt household-style bulbs in practical lamps and ran them through dimmers to further warm their light. He then brightened the actors with Chinese lanterns and Redheads fitted with ½ CTO. Since these scenes occur after the clan's situation has become more tense, the cameraman arranged his fixtures to provide pools of light surrounded by shadows. According to Delhomme, "once the actors were a certain distance from the lampshades, they fell into darkness" to convey a sense of the family's growing insecurity.

As a matter of course, Delhomme eschews filters, even for close-ups of actresses. "If the lighting is right, you also don't need diffusion," he insists. No filters of any kind were employed on *The Winslow Boy,* which was exposed on Kodak's 250D and 500T Vision stocks. The cameraman shot with a Platinum Panaflex and Primo prime lenses.

Delhomme's spare approach to lighting is driven by an overall credo that simpler is better. He therefore does not relight a setup if a change from master to close-up is required. "If the light is good for the master, then it should be good for the close-up," he opines. "Changing the lighting stems from the very old-fashioned idea [that] because you're working with movie stars, you have to do something special for the close-ups. I'll sometimes use a bounce board to soften the light a bit, but my feeling is that if one can find the right and logical direction for the light, then lighting is really quite simple." ■

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Books in Review

by George Turner

September Song
by John Weld
Scarecrow, 283 pps., cloth, $39.50
ISBN 0-8108-3408-1

Through the years, there has been a welter of movie-folk biographies — some excellent, some awful. Too often, the authors worship their subjects to the point of press agentry; conversely, some are so intent upon sensationalism that they engage in desperate searches for scandalous rumors (especially if the subject has passed on and can't sue).

Neither of these faults afflict John Weld's well-balanced biography of Walter Huston, a superb actor, the father of writer/director John, and grandfather to fine actress Angelica.

For many years, Weld, a novelist and screenwriter, was also a close friend to Huston and his third (and final) wife. "While [I was] living with the Hustons," the author notes in his introduction, "Walter told me his story and I wrote it all down. This is it." In fact, much of the telling is in Huston's own words, which is one reason why *September Song* ranks among the better bios.

The title is taken from the song Kurt Weill and Maxwell Anderson wrote for Huston in the play *Knickerbocker Holiday* (1938). Huston croaked out the tune and, much to his own amazement, his recording of it became a big hit. In addition to his life in vaudeville, legit theater and on the silver screen, Huston's private affairs are explored in considerable depth, including his family history, boyhood, three marriages, and a few of what seem to have been *many* romantic liaisons. The reader can almost feel Huston's triumph when he describes the elation of winning an Academy Award for his role in *The Treasure of the Sierra Madre* (1948), directed by his son.

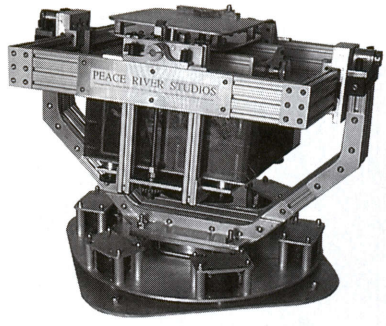
In Huston's last picture, *The Furies* (1950), he played T.C. Jeffords, a tough-as-saddle-leather cattle baron. Some cowboys in the picture made up a trail song which began, *There never was a man like old T.C. when he was in his prime.* Jeffords's death scene ended with a line that could have described Huston himself: "There'll never be another like me."

Hollywood on Lake Michigan
by Arnie Bernstein
Lake Clairmont Press, 364 pps., paper, $15
ISBN 0-96424262-1

Chicago is a city seldom explored in cinematic literature, but it gets a solid sendoff in this nicely researched history, which is aptly subtitled "100 Years of Chicago and the Movies." One might be surprised to learn that in the early years of the business, one out of every five American movies was produced in the Windy City. The first appears to have been *The Tramp and the Dog,* filmed in 1896 by Col. William Selig, founder of the Selig Polyscope Company. The city was also home to such pioneer studios as Essanay (pronounced "S and A," representing founders George K. Spoor and Max Aronson), which still stands on West Argyle Street with its name emblazoned above the doorway, as well as the Peerless Film Manufacturing Co., the American Film Manufacturing Co. and several others.

Chicago was also the stomping ground of the first Western star: Essanay co-owner Max Aronson, who produced, directed and starred in many *Broncho*

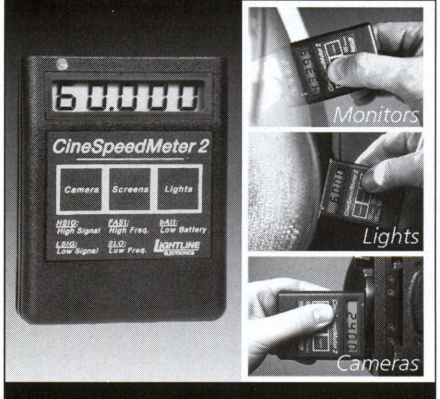
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Billy oaters under the screen name "G.W. Anderson."

An impressive number of West Coast movie companies capitalized on Chicago as a practical location — little wonder, given that the midwestern metropolis is one of the world's most distinctive and photogenic cities. Notable examples include *The Color of Money, Backdraft, Home Alone, Wayne's World, A Raisin in the Sun, The Sting, Looking for Mr. Goodbar, The Untouchables* and *Hoffa*. For *The Blues Brothers,* Universal bought a foundered suburban mall and stocked its stores just so costars John Belushi and Dan Aykroyd could wreck the joint in a massive car-chase sequence. The state prisons at Joliet appear in *Roger Touhy, Gangster; Call Northside 777;* and *Natural Born Killers*. Ironically, the three greatest films about Chicago gangsters — *Little Caesar, Public Enemy* and *Scarface* — were shot entirely in Burbank and Hollywood, California.

The author takes us on a guided tour with pictures of some of the old studio sites and of locations used by companies from California and New York. This impressive tome also features numerous interviews with filmmakers, a list of Chicago natives who became movie stars, and other bits of relevant information.

The Making of *Citizen Kane*
by Robert L. Carringer
University of California Press,
185 pps., paper, $15.95

This is a revised and expanded version of a book originally published as a hardcover edition in 1985. Though bigger and more sensational books on the subject have come to pass, Carringer's opus is the best of the lot for those who prefer information to gossip, facts to opinion and details to speculation. He offers up sharp scrutiny of the production from creative and technical points of view, along with solid information about the influences that helped shape it, the film's reception by both common and industry folk, its impact upon pictures that followed in its wake, and the great Orson Welles himself. Carringer backs up his information with plenty of studio archival material and interviews with Welles and other people who were there.

Welles is given the recognition he deserves as the prime creative force behind his magnum opus, but he's also perceived as the head of a highly skilled team. For once, ASC members Gregg Toland and Linwood Dunn, as well as Perry Ferguson, Mario Larrinaga, Bernard Herrmann, Robert Wise and many others, are all given due credit as collaborators rather than mere hired hands. Almost everyone gets a kind word save for the storyboard artists, whose work, according to Carringer, "usually lacks individuality."

Proper attention is accorded to *Kane's* aborted predecessor, *Heart of Darkness* (some fine production drawings are included) and the subsequent *Magnificent Ambersons.* The writer has done an admirable job of putting it all into a reasonable perspective. Except for his dislike of critic Pauline Kael's *Citizen Kane* book, Carrington seems to have no axes to grind or agendas to serve. ■

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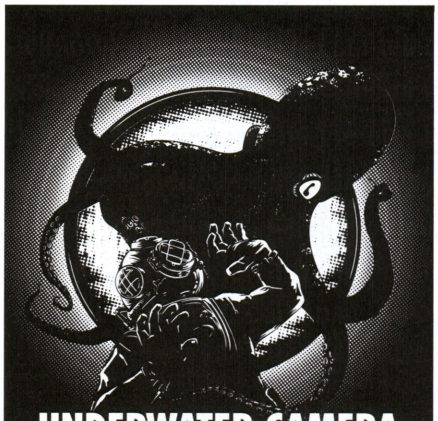
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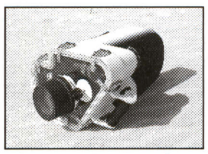
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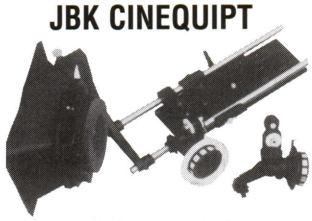
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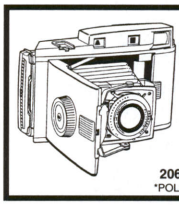


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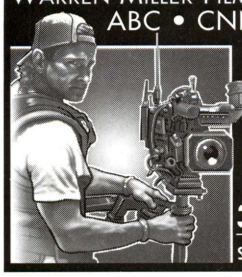
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From the Clubhouse



Mayer and Miyagishima Honored With ASC President's Award

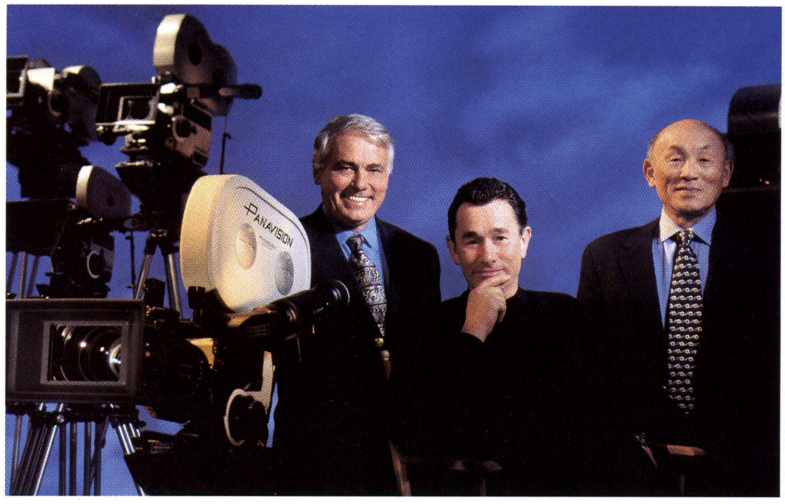
Veteran Panavision employees Albert Mayer, Sr. and Tak Miyagishima have received the 1998 Presidents Award from the American Society of Cinematographers. Miyagishima is the firm's senior vice-president of engineering, and Mayer is senior vice-president of research and development. The presentations were made at the ASC's 13th annual Outstanding Achievement Awards gala, held at the Century Plaza Hotel in Century City on February 21.

"Albert and Tak are among the many unsung heroes who work behind the scenes in our industry," said outgoing ASC President Woody Omens. "They have made historically significant contributions by helping to provide the tools we need to explore the full potential of our art. They deserve this recognition, both for their achievements and for their relentless dedication to progress over a sustained period of time."

The ASC Presidents Award is presented to individuals who have made exceptional contributions to advancing the art of filmmaking. Miyagishima and Mayer have joined an elite club that also includes such former honorees as visual effects pioneers Linwood Dunn, ASC and Hans F. Koenekamp, ASC, film preservationist Kemp Niver, ASC, cinematographer Bill Clothier, ASC, visual effects maven Douglas Trumbull and actor Robert Duvall.

Miyagishima joined Panavision in 1955 as a draftsman, only a few months after Robert Gottschalk founded the company. Mayer was hired as an engineer in 1968. Originally, Panavision manufactured and sold lenses to exhibitors, enabling them to project movies in the CinemaScope format. Subsequently, the company segued into designing and manufacturing lenses for motion-picture cameras.

According to Miyagishima, by 1958 the growing popularity of television had taken a big bite out of the movie audience. To lure fans back to the cinemas, the studios began producing epic widescreen movies. Twentieth Century Fox held a patent on the CinemaScope format, and was charging other studios licensing fees. Then Panavision developed a series of Auto Panatar lenses designed for producing movies in the widescreen anamorphic format. These instruments quickly became standard for widescreen movies at all of the major studios except Fox, which remained committed to CinemaScope.



Albert Mayer, Sr. and Tak Miyagishima, recipients of the 1998 ASC Presidents Award, flank Panavision CEO John Farrand.

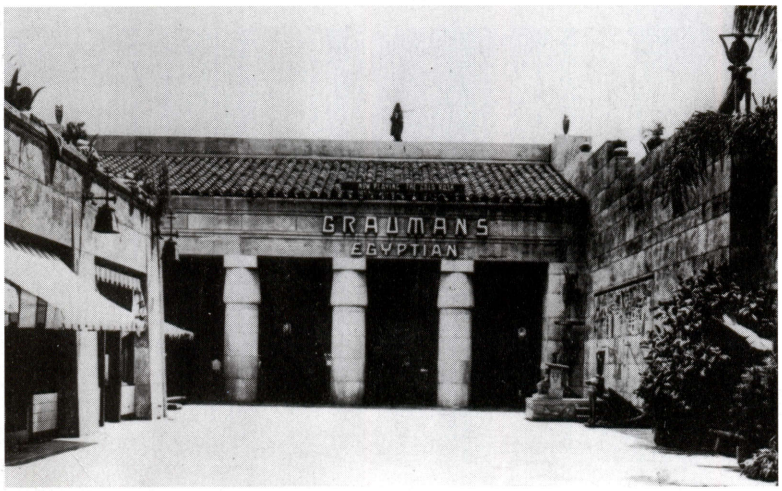
"Our lenses had a counter-rotating element which could be adjusted for close-ups," says Miyagishima. "That was an important feature, because actors and actresses tended to look as if they had fat faces in CinemaScope close-ups. In 1965, [director] Mark Robson prevailed upon Fox to allow Bill Daniels, ASC to use the Auto Panatar lenses on *Von Ryan's Express*. That was a great day at Panavision."

Before joining Panavision, Mayer worked briefly for the Mitchell Camera Company. "The Mitchell BNC cameras were the standard in the industry for 40 to 50 years, but many cinematographers felt they were too cumbersome for location work," he says. "They also wanted reflex viewing. I think management at Mitchell had come to feel that the industry had to listen to them — Bob Gottschalk was listening to the industry." The Panavision PSR camera, introduced in 1968, was a highly modified version of the Mitchell BNC camera. Some six years later, the company produced its first Panaflex camera.

Continues Mayer, "All of us learned from Bob Gottschalk. Sometimes he came running in here like the devil was chasing him. Usually, Bob had just been visiting a cinematographer and had come up with an idea [for a new process]. The next thing you knew, we were working on a device to help camera operators compose images in dim light, or something to help an assistant cameraman. He never said, 'This is good enough.'"

Miyagishima reflects upon the time that the late Freddie Young, BSC asked Panavision to develop a special long focal-length lens. Young initially utilized the lens to film the famous mirage scene in *Lawrence of Arabia* (see "Best Shot Films: 1950-1997" on page 130). In another instance, director Robert Wise requested that a special lens be designed so that he could create an eerie type of optical distortion for *The Haunting*. Notes Mayer, "We have many stories we could tell about cinematographers and directors who challenged us to find solutions to the technical problems they needed to solve. That's the secret — Bob Gottschalk was right. As long as there are dreamers who challenge us to do better, the possibilities for the future are unlimited." ■

WRAP SHOT



Top: The Egyptian as it appeared during its heyday in the 1920s. Bottom: The revived theater, a glittering jewel on Hollywood Boulevard.

In 1922, Hollywood proper consisted of a village and several movie studios that had just sprouted from an unending sea of orange groves. Hollywood Boulevard amounted to a quaint row of shops and houses, with no suggestion of glamour whatsoever. Then Sid Grauman, the wild-haired showman who had built the opulent Million Dollar Theater in downtown Los Angeles, decided to construct a movie palace as a premiere showcase on Hollywood Boulevard. Architects Mendel Myer and Phillip Holler designed it in the style of ancient Egypt, with a slight touch of Jazz Age decor. This cinema came complete with an ochre-colored exterior, huge columns a la Karnak, a magnificent auditorium with a sunburst ceiling 50 feet overhead, walls stenciled with Egyptian murals, a great scarab above the screen, a lobby replete with statues of ancient gods and pharaohs, and two colossal heads of Ramses that kept vigilant watch over a 140'-long forecourt.

Hail, the arrival of Grauman's Egyptian Theater!

The Egyptian was the first great step toward making Hollywood a Mecca for movie lovers. Four years later, its success prompted Grauman to erect the Chinese Theater a few blocks west. These playhouses and their glitzy premieres helped make Hollywood Boulevard as famous as Times Square. Since the Fifties, however, this Tinseltown street has become badly tarnished — almost a testimony to its malignant moniker "the boulevard of broken dreams" — and the Egyptian's deterioration reflected this downhill trend. The 1994 Northridge earthquake delivered a *coup de grace* that seemingly finished off the theater for good — until now.



In 1999, the Egyptian has undergone a glorious resurrection, and it now stands as a shining symbol of the motion picture industry's historic roots. The property is now owned by the American Cinematheque, a non-profit film exhibition and cultural organization founded in 1984. The entire complex has been renovated to the tune of $14.2 million by the Santa Monica-based architectural firm of Hodgetts & Fung.

The odeum retains many of the original's salient features, including ceiling restorations, murals, the scarab-dominated proscenium and a fancy, palm-lined forecourt. The auditorium's back end has been shortened by 25 feet to afford a more spacious lobby, but its audience capacity remains at 650. Seating is arranged within a framework of black acoustical panels that stand open to reveal the original walls. When the screening begins, these panels close and improve viewing and acoustics. Also incorporated is a 68-seat screening room and a restaurant with a roof terrace.

The gala opening, held on December 4, 1998, featured a newly restored print of Cecil B. DeMille's 1923 version of *The Ten Commandments,* which premiered at the Egyptian some 75 years before — on the exact same date. Hugo Riesenfeld's original score was performed live by a 16-piece orchestra conducted by Gillian Anderson.

"The Egyptian Theater is a physical embodiment of what the Cinematheque is all about," said Barbara Zicka Smith, director of the organization. "We are committed to showing films from the past and showcasing the talent of the future. So the theater — with its 1922 shell, into which we have dropped a futuristic box — is the perfect symbol, much more so than a new building ever could have been."

— George Turner

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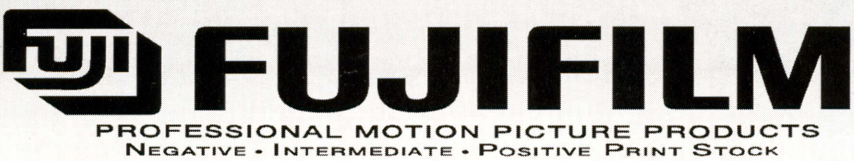
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